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Clinical Medicine and Surgery

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ALFRED STEPHEN BURDICK, A. B., M. D.

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CLINICAL · MEDICINE
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VOL. 40 MARCH, 1933 No. 3

Dr. Alfred S. Burdick

THESE are times when the world can ill spare the presence, in the flesh, of its real leaders in any field, even though we know that their opportunities for service are enlarged by their release from the physical investiture. Especially does the medical profession need the men who have labored and achieved greatly in making the healing art and science what they are today. When, however, they leave us, as tangible parts of our environment, we must strive to learn the lessons their lives have taught and emulate their inspiring examples.

On February 15, 1867, a son was born to the Reverend Stephen and Susan (Maxson) Burdick, at De Ruyter, New York, and they christened him Alfred Stephen.

The boy was a keen and eager student and assimilated the knowledge offered him so rapidly that he was graduated from Alfred University, with the degree of A.B., when only nineteen years old; after which he taught school for a year or two.

But he saw before him a career of usefulness to the world, and embarked upon it by entering the Chicago Medical College (now part of Northwestern University) and taking his medical degree from Rush Medical College, in 1891.

Dr. Burdick entered upon the general practice of medicine, immediately after his graduation, in Dunlap, Illinois; then, due to his wife's illness, transferred his activities to Florida for a few years; and later returned to Illinois, where he practiced in Hinsdale and Chicago. From 1899 to 1904 he was associate professor of the practice of medicine in the Illinois Medical College.

On his return to Chicago, Dr. Burdick became interested in medical writing, and did so well at it that he was editor of the *Medical Standard* from 1899 to 1904.

It was through this latter activity that he attracted the attention of Dr. W. C. Abbott, who was looking for someone to assist him in spreading a knowledge of exact, active-principle therapeutics among the physicians of the United States. Dr. Burdick was persuaded, in 1904, to give up medical practice and devote his entire time to editorial and literary work, as editor of this journal, which was then called *The Alkaloidal Clinic* and was, frankly, a periodical for propaganda, but gradually became, under Dr. Burdick's guidance and under its

new name, *The American Journal of Clinical Medicine* (1906), more and more an independent journal for the general practitioner.

But the Doctor was also deeply interested in providing physicians with dependable remedies for use in their fight with disease, and made himself familiar with the work which Dr. Abbott was doing in that connection, gradually giving up his editorial labors, which were assumed by Dr. H. J. Achard, in 1913, and devoting practically his entire time to the business of manufacturing pharmaceutical products. With the passing of Dr. Abbott, Dr. Burdick became president of the Abbott Laboratories, in 1921.

In this latter field, the Doctor did splendid work and achieved high distinction. He was president of the American Drug Manufacturers' Association 1923-25; a member of the Board of Governors of the Synthetic Organic Chemical Manufacturers' Association, and also vice president in 1923; as well as a member of the Chemical Advisory Committee of the U. S. Department of Commerce from 1925 until his passing, on February 11, 1933—only a few days before his sixty-sixth birthday.

Dr. Burdick was a Lieut. Colonel in the Medical Reserve Corps, U. S. Army; a fellow of the A.M.A.; a member of the American Medical Editors' and Authors' Association and of various other organizations; and the author of three medical books—"The Standard Medical Manual" (1904); "The Remedy" and "Common Emergencies" (1915)—and of various articles in the periodical literature.

An omnivorous reader, a studious artist (he was an active member of the Business Men's Art Club of Chicago) and a wonderful listener, Dr. Burdick accumulated an immense fund of knowledge about men and things which, with his keen vision, sound sense, unfailing kindliness, unfaltering probity and personal modesty, combined to make him one of the leaders in his field, to whom all listened with respectful attention.

It is rare that a physician achieves such marked distinction in several fields of activity, and with it the devotion and affection of all who have been associated with him, as fell to the lot of Dr. Burdick, whose passing is far more than a merely personal loss to those who knew him.

Rather be mistaken, with Plato, than be in the right, with those who deny altogether life after death. —SIR WILLIAM OSLER.

HAY-FEVER AND THE VITAMINS

SO far, there seems to be but one line of treatment which will give reasonably (though not entirely) certain, complete and lasting immunity from hay-fever: That is, repeated courses of pollen antigens.

There are, however, a good many sufferers from this distressing and more or less disabling malady who, for one reason or another, cannot or will not take the immunizing treatment, and we would be untrue to our high calling if we failed or refused to give these unfortunate as large a measure of relief as is possible.

Without going into the many palliatives which have been used from time to time (of which ephedrine now stands first and Metaphedrin, perhaps, second), we wish to call attention to a suggestion which seems to have distinct possibilities and a reasonable, even though, so far, undemonstrated basis.

In *Industrial and Engineering Chemistry* for July 10, 1932, K. Kitsuta, Ph.D., of the Ohio Agricultural Experiment Station, Wooster, Ohio, who has been a sufferer from both the spring and autumn types of hay fever for many years, reported that he obtained complete, though temporary, relief of his symptoms by taking four teaspoonfuls (about 16 cc.) of standard cod-liver oil three times a day, preferably combined with a cake of yeast.

Dr. Kitsuta was led to undertake this treatment by reports that the vitamin B complex is effective against sensitiveness to foreign proteins. He first took large

quantities of yeast for several years, with little or no result; but this year he added the cod-liver oil, with the idea that what the body required might be something like a *balanced ration* of vitamins. He finds that a smaller dosage of the oil than this is not satisfactory and feels that the protective substance is in the oil, though he believes that the yeast helps.

Another observer reports, in a personal communication, having produced similar relief, in a patient who had suffered with hay-fever for ten years, but who showed no positive skin reactions to any pollen, by the administration of vitamin-equivalent doses of haliver oil with viosterol. This strongly suggests that it is the vitamins, and not the grease, in the cod-liver oil, that do the work.

In a later issue of *Indust. and Eng. Chem.* (August 10, 1932), another correspondent attempts to invalidate the suggestion as to the potency of the vitamins in this regard by calling attention to the facts that cod-liver oil contains iodine, which has long been used as a remedy in asthma, and that asthma is somewhat similar to hay-fever.

This contention seems a bit absurd when one realizes that the iodine content of cod-liver oil is from 0.0001 to 0.0005 of one percent, which means that four teaspoonfuls (about 16 cc.) of the oil contain about 0.032 *milligram* of elemental iodine. Since the ordinary therapeutic dose of potassium iodide (5 grains or 300 milligrams) contains about 230 milligrams of elemental iodine, a dose of the oil more than 7,000 times larger than that taken, or between 25 and 30 *gallons*, would be required to furnish iodine equivalent to that in 5 grains of potassium iodide. Why, even a dose of the potent drug, thyroxin (1/120 grain or 0.5 milligram), contains ten times as much iodine as that in 16 cc. of cod-liver oil, and no one yet knows how much more than that in three or four minims of haliver oil!

Certainly one or two clinical observations are very far from establishing a law, but since haliver oil and yeast are so easy to take and so harmless, and because our knowledge of the powers and properties of the vitamins is, at present, so incomplete, it seems reasonable to suggest that, when opportunities present, a large number of physicians might well experiment, clinically, with these substances, keep careful records of the results and report them in due season.

He who would have health must work for it and must be intelligent about life's problems.—Dr. Jesse F. Williams.

Suicide, Hobbies and Philosophy

THERE seems to be a rather general impression that the suicide rate has been steadily rising quite recently, but that is not strictly true, though it has risen, since the low point (6.1 per 100,000 of population) was reached, in 1920, to a present rate of 11 per 100,000. However, in 1911 the rate was 13.3, and in 1913, 13.5. At this time, almost 20,000 persons take their own lives in the United States each year.

There is no doubt that too many people are killing themselves, these days, and the Metropolitan Life Insurance Company set out to discover why they are doing it. Their findings and figures show some interesting things. The suicide rate rises rapidly with age and is much higher for males than for females. It also varies considerably in different races.

Many seem to think that the recent distressing economic conditions are the chief cause of the present high rate (and the fact that the rate is higher in males, who bear the brunt of the pressure, indicates that this is one of the factors); but, the rate was rising rapidly during the feverishly prosperous years, 1927 to 1929, so the "depression" cannot be the chief factor.

The hard times have hit *everyone*, but only a relatively small number of people have

responded to them by running completely away from life; so the most important factor must be in the *individual*, rather than in the *environment*—some basic instability or lack of capacity to adjust to changing circumstances.

The War period was a difficult time, too; but during those years the suicide rate was the lowest it has been since such figures began to be kept. Why?

It seems reasonable to believe that, during the War, though most people were under great stress and many were undergoing hardships, almost all of them were *intensely interested in living*—found life, on the whole, a *thrilling adventure*, which they would be loath to miss. If that is true, then an increase in a man's interest in his pursuits (such as the development and "riding" of an absorbing hobby, particularly of the creative type) ought to reduce the suicide rate.

The increasing frequency of personal maladjustment to one's environment, which appears to be the most important factor in the increase in self-destruction, seems to be due to the fact that, just when the business of living is becoming steadily more complicated, so that more of the philosophic outlook is needed to make the necessary adjustments to it, the older and more primitive philosophies, which sufficed for the psychic and spiritual needs of less intellectual and sophisticated generations, are losing their validity, for many, leaving them with nothing to lay hold upon in times of outer and inner tumult.

It would be rational, then, as a prophylactic against suicide, if all physicians and other teachers and leaders could and would discover or evolve a philosophy which would meet the needs of the times and the people (there are several of these, which can be found by all who truly seek), and develop an absorbing hobby, to fill their leisure hours with zest. Having, themselves, discovered and done these things, the molders of public opinion could then advocate them, with enthusiasm and conviction, to others, especially to the younger people, who need these ideas most.

This now appears to be the only practicable way to lower our appalling suicide rate.

THE LAST SNOW

LEADING · ARTICLES

The Part Played by Bacteria in the Large Intestine in Causing Epidemics*

By J. E. R. McDonagh, F.R.C.S., London, Eng.

INFECTIONS can be conveniently divided into: (1) those from within; (2) those from without. The former are caused by microorganisms which have mutated from the *Bacillus coli communis* and acquired pathogenic properties, mainly through the influence of climate working upon individuals who have already been damaged by inherited disease. These infections, being of the host's own making, are peculiar, in that little or no immunity is established, with the result that each reappearance of clinical signs and symptoms is a reinfection. The latter (those from without) are caused by microorganisms which have established no previous connection with the host, such as the gonococcus. This results in the formation of a more or less perfect immunity, so that each reappearance of clinical signs and symptoms is a recurrence.

Infections from within occur in man and animals alike, and embrace most of the epidemics and many of the outbreaks of food-poisoning. They are disseminated by the activity of the bacteria concerned and not by the microorganisms themselves, as is the case in infections from without. Many of the epidemics are seasonal and the term "influenza" has been applied to the one prevailing for so many years as to have created the impression that it is a specific infection. This is nothing of the sort; the term can be used to designate practically all infections from within, both in man and animals. As this is too all-embracing and the word throws no light upon the causative microorganism, it should be allowed to fall into disuse.

The microorganisms which have mutated from the *Bacillus coli communis* have done so in five directions. Each can be likened to a ladder, because the microorganism on one rung has evolved from the one on the rung below. The higher each ladder is climbed, the more pathogenic the microorganism becomes. The distance travelled may be so great as to sever all connection with the parent microorganism. When this is the case, the microorganism acquires the properties possessed by those which cause infections from without.

Certain microorganisms towards the end of each ladder may develop coccoid forms, which are reversible, and these, ultramicroscopic forms, which are irreversible. The microorganisms able to do this have a cycle and it is due to the ever-increasing immunity which develops in the host during this cycle that the various phases are formed. In the course of time, the coccoid forms may acquire characteristics of their own, which enable them, not only to form subcoccoid and ultramicroscopic phases, but also to cause infections from without. Owing to all connection with the parent phase being lost by the time the ultramicroscopic phase comes into being, this new phase may likewise cause an infection from without. Finally, each phase may develop into an infinite form, to which I apply the word "activity." This "activity" contains molecules of the various phases in a state of dispersion, which be-

*A paper read before the Derby Medical Society, England, Oct. 20, 1932.

comes finer as the phase does smaller. The "activity" is responsible for the spread of infections caused by the parent micro-organism, but not by the other phases, which behave like microorganisms causing infections from without.

As I was for a long time in doubt about the origin of the *Bacillus faecalis alcaligenes*, I did not assign it a ladder. But as it appears to be connected with the *Bacillus proteus vulgaris*, on ladder IV, through the *Bacillus pyocyaneus* and the *Bacillus Morgan*, and as it is more closely related to the *Bacillus coli communis* than would be the case if it belonged to ladder IV, I have tentatively assumed that it has originated, along with the *Bacillus coli communis*, from a common parent. Ducrey's bacillus, the cause of *Ulcus molle* (soft chancre) and the *Bacillus gangraenae cutis*, the cause of spontaneous skin gangrene and the form apt to involve the wound made in removing a septic appendix, is most probably derived from the *Bacillus Morgan*. *Ulcus molle* is not necessarily a venereal infection and it should not be classed as such. It is a lesion liable to appear in the groins and on the genitals whenever there is sepsis on the abdominal wall and on the lower extremities.

The *Bacillus faecalis alcaligenes*, now ladder VI, developed into a coccoid phase and this into an ultramicroscopic phase when its last cycle was coming to a close in the early part of 1930. These phases were partly responsible for the socalled epidemics of "psittacosis" and "glandular fever" which occurred at the time. The epidemic of psittacosis was common to man and animals and was not inter-communicable, hence the word psittacosis is a misnomer, because the epidemic bore no specific relationship to parrots, it being merely a phase of the then-prevailing epidemic of influenza.

Glandular fever is a condition which may occur at the end of any cycle and the clinical signs and symptoms produced are the result of the chemico-physical changes the protein particles in the plasma of the host undergo as a result of the cycle. It is, due to these same chemico-physical changes that the cycle is brought to a termination. The chemico-physical changes are similar to those occasioned by the activity of the *Leucocytozoon syphilidis*, the causative micro-organism of syphilis. This explains the resemblance between glandular fever and early syphilis. The characteristic features are polyadenitis, lymphocytosis, maculo-papular rash and a positive Wassermann reaction.

Glandular fever, when of streptococcal origin, is allied to German measles and lymphatic leukemia, both of which probably are more directly due to the protein particles, changed by the activity of several microorganisms, than to a phase of a specific bacterium.

In times gone by, some of the coccoid forms of the *Bacillus faecalis alcaligenes* apparently severed connection with their parent form, to behave either as micro-organisms from without or as secondary microorganisms. As examples of the former may be mentioned the *Brucellae*, and of the latter, *Bacillus influenzae*, *Bacillus Koch-Weeks* and *Bacillus pertussis*. One of

the *Brucellae*, the *Bacillus bronchisepticus*, may develop an ultramicroscopic phase, which is one of the causes of canine distemper. Canine distemper is merely influenza of dogs and is of manifold origin, hence the reason why the "Field distemper vaccine" has not proved successful.

While on this subject I would like to mention that the production of immunity with live viruses, even if attenuated, is not justified. To form any degree of immunity by this procedure, it is necessary to cause some kind of infection. Moreover, it is apt to result in sequelae which, hitherto, have failed to be connected with the injections.

All streptococci probably had their origin from the *Bacillus Friedländer* and even now, for the most part, they play no more than a secondary part in infections from within. That is to say, the clinical signs and symptoms of scarlet fever, rheumatic fever, etc., may be precipitated by streptococci, but are actually caused by the *Bacillus Friedländer*. This microorganism is also primarily responsible for most cases of the common cold, tonsillitis, pneumonia, ulcerative colitis, etc.

The primeval streptococcus is probably the *Streptococcus fecalis*, which appears to have a cycle lasting two years. In the course of the cycle, sub-coccoid phases form, which are wholly responsible for measles and partly so for German measles and glandular fever. Ultramicroscopic phases also form, to cause such conditions as variola, alastrim, varicella, herpes zoster, mumps and encephalomyelitis. The ultramicroscopic viruses responsible for variola, and possibly alastrim as well, have in course of time become distinctive and today bear much the same relationship to the *Streptococcus faecalis* as do the *Brucellae* to the *Bacillus faecalis alcaligenes*.

General Considerations

The factor in **climate** which, in my opinion, is most responsible for rendering the mutation forms of the *Bacillus coli communis* pathogenic, is activity. This activity is presumably derived from the sun, stars and even nebulae and stands to these bodies as does the activity of microorganisms responsible for their spread and the activity of drugs existing in homeopathic dilution. That is to say, the activity of a body is a term I apply to the state produced when the molecules of that body reach the finest degree of dispersion possible. The activity of climate, in addition to rendering microorganisms pathogenic, also regulates the degree of the pathogenicity. Certain microorganisms are rendered pathogenic at certain seasons. Those on Ladder II are most active from July to December. At the beginning of the year, from January to May, either those on ladder III or ladder VI are chiefly in evidence. The microorganisms on ladder IV are usually most active in June, and those on ladder V in July.

The degree of the pathogenicity has an influence, not only upon the clinical signs and symptoms produced, but also upon the length of the cycle of the microorganism in question. These differences are not limited to infections from within, because their behavior also regulates the clinical pictures encountered in infections from without. This is why manifestations of disease common yesterday are rare today, and so on.

I might mention in passing that, although I see fewer cases of syphilis year by year, I have seen more cases of syphilitic polyneuritis this year than in the whole of my experience. So far as disease in general is concerned, we are now in an era where thrombosis and myocarditis have probably never been so common.

The length of the cycle of the microorganisms is regulated also by the immunity response of the host. In other words, it depends in part upon how long the host's resistance takes to turn the tables upon the invader. The various phases formed in the cycle are expressions of the same chemico-physical changes wrought by the host's resistance upon the parent microorganism as those to which it, in the first instance, subjected the protein particles in the plasma of the host.

In short, the phases represent a progressive dehydration or splitting up of the molecules of the parent microorganism. For the sake of description, the phases may be divided into five: (1) parent microorganism; (2) coccoid phase; (3) ultramicroscopic phase; (4) crystalloid phase; (5) activity. The more dispersed the molecules become, the more they behave like chemical compounds, exhibiting an electrostatic or ionic action, and the less like those which are co-valent and have no molecular dissociation. This means that, as each step in the cycle is trod, so much more acute becomes the infection produced,

because so much greater is the dehydration to which the protein particles in the plasma of the host are subjected. The coccoid phase produces a more acute infection than the parent microorganism, and pyrexia, the most constant sign of dehydration, is even more pronounced in infections caused by the ultramicroscopic phase.

The microorganism, as its molecules become dispersed, tends to grow Gram-positive. When the molecules reach a certain stage of dispersion, the previously-possessed colloid characteristics give place to those of the crystalloid state. In this form the phase is only just able to cause an infection, and then only a mild one. The formation of this phase explains why so many ultramicroscopic viruses have been found to be resistant to drying, alterations of temperature, chemical action, etc.

It is because of these properties that some observers have considered the ultramicroscopic viruses to be enzymic in nature. There is no such substance as an **enzyme**; it is merely a name which may be given to those molecules existing in a more dispersed state than pertains in the parent substance. "Enzyme" is only another word for "activity." The state of fine dispersion enables the phase so formed to split up the particles of the parent substance. This phenomenon, exhibited by microorganisms, has been termed **"bacteriophage action."** Its main significance lies in the fact that the bacteriophagic phase plays a part in ending the cycle, by causing demise of the parent form. In the fifth phase the molecules are too dispersed to cause an infection. They are a powerful factor in disseminating an infection and they are powerful weapons, when used correctly, with which both to prevent an infection and to check it once it is in being.

Although activity can be prepared in the laboratory, just as many of the other phases of microorganisms which do not spontaneously so develop may be, it cannot be ascertained or measured while in the human body. It is, for this reason, useless and unnecessary, in infections from within, to segregate or hospitalize victims or supposed carriers, unless hands can be placed upon the originators before any activity has been disseminated.

There are many other factors besides the activity of climate which have an influence upon the incidence of infections from within, to mention only imported and unnatural food-stuffs and lack of fresh air. It is due to all these that disease is so common in domesticated animals and so rife in animals in captivity. The same ladders come into evidence at much the same seasons in man and animals and, although the infections are caused by the same microorganisms, they are, not only not intercommunicable, but also cannot be passed from one species of animal to another species. In animals under domestication, dogs particularly, ladder II is much more in evidence than the others. In animals in captivity, reptiles particularly, ladder II is seldom prominent.

There are always more pathogenic microorganisms in the excreta of reptiles than in those of other animals; then come the birds; and after them the flesh-eating mammals, the herbivora being usually the cleanest. In the excreta of reptiles most of the microorganisms occupying the uppermost rungs of ladders III, IV and VI are found existing together. All may be saprophytic one day, and become so pathogenic in the course of hours as to cause acute membranous entero-colitis and death.

In man also, more than one microorganism at the same time may be responsible for an infection. The observations made above suggest that ladder II evolved before the others, thereby accounting for the fact that the microorganisms occupying its rungs are, on the whole, less pathogenic than those on the rungs of the other ladders.

The Various Ladders

Ladder I.—As the *Bacillus coli communior* is of little clinical significance this ladder can be dismissed.

Ladder II.—The point I most want to stress here is that the *Bacillus Friedländer* is the primary cause of practically all the streptococcic and pneumococcic infections. The microorganism may leave the large intestine to invade the lungs, where it causes bacillary pneumonia, or it may remain in the gut, from whence its activity changes the protein particles in the plasma to cause pulmonary edema.

The most important of the streptococci, and probably the first to be formed from the *Bacillus Friedländer*, is the *Streptococcus faecalis*. This microorganism has always remained in the large intestine, although other forms have developed from it. These forms have invaded the blood and other organs, where they have acquired

properties enabling them to function as secondary microorganisms and as microorganisms able to cause infections from without.

The *Streptococcus faecalis* has a cycle which lasts, as a rule, about two years. Occasionally the parent microorganism outruns its usual biennial period of pathogenicity. When this happens, many clinical pictures are produced which would otherwise not be seen. The other mutation forms of the *Bacillus coli communis* do not become pathogenic and the expected epidemic of measles is either delayed or does not appear at all. In other words, the prevailing epidemic is the result of the pathogenic activity of the *Streptococcus faecalis*, rather than of that of the bacilli of epidemic jaundice or of the *Bacillus faecalis alcaligenes*.

Such an event occurred in the winter 1931-1932. Cases of colitis, nephritis, erysipelas, etc., were seen, instead of the socalled "gastric form of influenza," which was anticipated. The bacilli of epidemic jaundice, which should have appeared, were kept in abeyance, and measles, in London, did not run its usual round at the usual time. The onset of the infection was generally retarded and, while some districts had two epidemics, others experienced none at all. Many of the children expected to have measles developed chickenpox and mumps instead. Others developed German measles, and it is interesting to note that the greater majority of these children had had measles two years previously.

The streptococci are probably a greater cause of canine distemper than the *Bacillus bronchisepticus*.

Ladder III.—The microorganisms on this ladder vie with the *Bacillus faecalis alcaligenes* to play the greater part in causing the milder summer and more severe winter epidemic, so frequently referred to as "influenza." The microorganisms most to blame are the bacilli of epidemic jaundice, the main cause of socalled "gastric influenza." If the activity of these microorganisms becomes very great, epidemics of paratyphoid and typhoid are liable to occur.

As faulty food may so stimulate the activity as to cause ascent to the rungs occupied by the *Salmonellae*, an epidemic can be brought into being which is labelled "food-poisoning," although it could equally well be termed "influenza." The food at fault does not contain the bacilli, nor any part of them, found in the excreta of the victims. The bacilli found range from the late lactose fermenters to the *Bacillus paratyphosus*, and there is a direct relationship between the microorganism grown from the excreta and the severity of the clinical signs and symptoms presented.

Contaminated water and milk are not the cause of socalled paratyphoid epidemics, so there is never any necessity to slaughter cows thought to be infective or to put farms into quarantine. Such epidemics come into being only when ladder III is active. The bacilli on this ladder are active at the present moment, and have been since the last cycle of the *Bacillus faecalis alcaligenes* terminated in May, 1930.

I anticipate that the socalled "influenza" epidemic of the winter 1932-1933 will be mainly of the gastric type. There will also be sporadic epidemics of paratyphoid and, should ladder VI fail to reappear for a few more years, the activity of the *Salmonellae* may become so pathogenic as to cause another outbreak of typhoid fever. The decrease of typhoid in recent years is of the natural order of things and is not solely due to the effects of preventive medicine.

Ladders IV and V.—The activity of the proteus group has been greater this year than it has been for many years. Moreover, the activity is extending into months where these microorganisms are usually dormant. During the winter epidemic 1931-1932, the bacilli of epidemic jaundice were more associated with the dysentery group than with the *Bacillus asiaticus*, as had been the case previously. This explains the localized epidemics caused by the *Bacillus Sonne*, which occurred in various parts of England at this time.

Ladder VI.—The *Bacillus faecalis alcaligenes* was mainly responsible for the summer and winter epidemics from 1926, when I began this work, to May, 1930. How long it had been so before, I am unable to say. The pathogenicity of this microorganism reached its height in the winter 1929-1930 and the phases which formed just prior to its demise were responsible for the epidemics of psittacosis and glandular fever, which occurred at the time.

The *Bacillus faecalis alcaligenes* was almost a complete absentee till the third week in April, 1932, when it made a

dramatic re-entry. From the third week in April until the second week in May, practically every specimen of excreta from man and animals, containing pathogenic microorganisms, grew this bacillus. After the second week in May, it vanished as dramatically as it appeared. It showed itself again slightly in the third week of July, but not since. These short re-entries are doubtless a prelude to the appearance of another cycle, but when the bacillus is going to take the reins now being held by the baciilli of epidemic jaundice, it is impossible to say, It may be that short re-entries will be the rule for some years to come, as seemed to be the case with the microorganisms on ladder III, when the *Bacillus faecalis alcaligenes* was last paramount.

The *Bacillus influenzae* and its congeners probably evolved from the *Bacillus faecalis alcaligenes* when it was completing a cycle decades back. As their role is no more than secondary, while the *Brucellae,* which are likewise infant forms, have acquired the properties of microorganisms causing infections from without, it is reasonable to suppose that the latter evolved at a much earlier date than the former. Whether it is a coincidence that the incidence of undulant fever seemed to be at its height during the last reign of the *Bacillus faecalis alcaligenes* is due to this infection being undetected before, it is impossible to say.

Prevention and Treatment

To prevent infections from within, every effort should be made to reduce the incidence of familial disease and chronic intestinal intoxication. The people should be instructed to eat home-produced and natural food stuffs, and the more vegetarian the diet becomes, the less likely are the microorganisms in the large intestine to develop pathogenic activity. Constipation should be strenuously avoided, as much fresh air as possible should be available and no more clothes should be worn in the winter than in the summer.

A prophylactic vaccine, as prepared in the Nature of Disease Institute's laboratories, is of some value, particularly if injected between September and December. This preparation contains the washings of most of the pathogenic microorganisms which have been found in the excreta during the past two years. These washings contain the activity of the parent microorganisms and, to guard against the host remaining unprotected from the phases of the various microorganisms, the vaccine contains the filtrate of all the microorganisms used, in addition. Only one injection is made, little or no reaction is produced and the immunity lasts an indefinite time—from a few weeks to a year. Each succeeding year the prophylactic vaccine should prove more valuable, as it will contain the washings and filtrate of all the microorganisms selected since the first batch was prepared.

For treatment, the washings only are used, and one injection of the vaccine, prepared from an emulsion of 1,000 million microorganisms, should be made as soon after the onset of the infection as possible. Such a vaccine can be employed in any infection from within. In many cases it stops the infection at once and in others it partially relieves and so allows time for the preparation of a vaccine from the patient's own microorganisms.

Chemotherapy can be combined with immunotherapy; therefore, in all cases where there is pyrexia, Sup. 36, in 0.01 Gm. doses, should be prescribed.

In closing, I would like to issue a warning against undertaking colonic lavage or prescribing enemas during the acute stage of an infection from within. All victims should subsist on fruit only, and milk should be rigidly prohibited, as there are few articles of food so apt to increase the pathogenicity of the mutation forms of the *Bacillus coli communis* as this one.

42 Wimpole St., W. 1.

Internal Resources

With communism in Russia, dictatorships in Italy and Spain and revolutions in South America, it is well for us to teach our children to accumulate spiritual, educational and physical reserves. They should not depend solely upon lands and securities which we may leave. Those with such triple reserves can afford to be free from fear. For them, whatever happens, the world is growing better.—Roger W. Babson.

Hermaphrodism

(Report of a Case)

By G. Norman Adamson, M.D., Chicago

SIGNIFICANT among the many medical problems which are discussed in a whisper is that of hermaphrodism. That these unfortunate individuals are worthy of every consideration, goes without saying. Yet this condition, like other aberrations of sex, has gone lacking for scientific investigation and treatment.

The word, hermaphrodism, is etymologically derived from the Grecian names for their god, Hermes (Mercury) and goddess, Aphrodite (Venus), suggesting the vagrant sexual characteristics present. Such persons must have, or appear to have, both male and female reproductive organs.

True hermaphrodism is rare, the accepted criterion for the existence of this form being the presence of both gonad structures, as determined by biologic examination. Lacassagne has catalogued some of the few authentic cases. Of these Salen reports one with female characteristics—vagina, habitus and menstruation—but a right ovotestis and left ovary. Sinagaglia's case presented a right undescended testicle, which proved to be an ovotestis upon microscopic examination. This gonad was in close proximity to a tube, uterus and vas deferens. Another case is described by Lacassagne and reported jointly with Brian and Lagoutte, of a supposed male who had an apparently normal right testicle and a left cryptorchid gland, which lay in apposition with a tube and ovary.

Many intermediary types of pseudohermaphrodism have been described by various investigators, but Frank combines all of them under two headings: the "internal" or tubular and the "external." The female who presents a deformity of the "internal" variety generally has normal external genitalia, but may also possess a prostate and vas deferens. The male may present a vagina, uterus and tubes, as well as seminal vesicles, testes and vasa deferentia.

In the "external" type of pseudohermaphrodism, the female usually has a defective vagina, a hypertrophic clitoris and ovaries, which may herniate into the labia. The male has a hypoplastic phallus, cleft scrotum, cryptorchism and a urogenital sinus. This may or may not simulate a vulva. Some accentuated sex characteristics, such as long hair and pendulous breasts, are often present.

Etiology

The fundamental principles operative in the production of hermaphrodism doubtless have to do with those factors which determine sex—which are unknown. Dawson's theory, however, which is, in effect, that the right and left ovaries alternate in producing males and females respectively, has been given considerable credence within recent years.

Investigators like Pick, Frank and Lacassagne have long ago established the fact that during the first three months of fetal life—before the normal involution of the sexual organs—every person is a hermaphrodite. At this period the Müllerian ducts (which later develop into the tubes, uterus and vagina) coexist with the Wolffian structures (which later develop into the testes, prostate, seminal vesicles and vas deferens). Normally the embryologic structures of the opposite sex involute. Hermaphrodism obtains when there is a disturbance with this involution and subsequent development.

Case Report

"Miss X," aged nineteen, an unmarried school teacher, reported Nov. 11, 1929, for advice and treatment regarding certain congenital deformities of the generative apparatus, amenorrhea and inability to live a normal sex life.

Very soon after birth, the abnormality of the genitalia was noted, but it was not considered of serious consequence until the approach of the age of puberty. Throughout the span of childhood a distaste for playing with dolls and indulging in other activities usually liked by girls, was noted. "She" rather exhibited a preference for the more active, athletic sports. With the onset of adolescence, certain complex sexual inclinations began to develop, causing "her" to be in doubt as to whether "she" preferred the company of girls or boys. As maturity came on there were the usual developmental changes in the breasts, as seen in the normal girl, but no menses appeared, either natural or vicarious.

"Her" family history is essentially negative, the mother having died recently of pneumonia

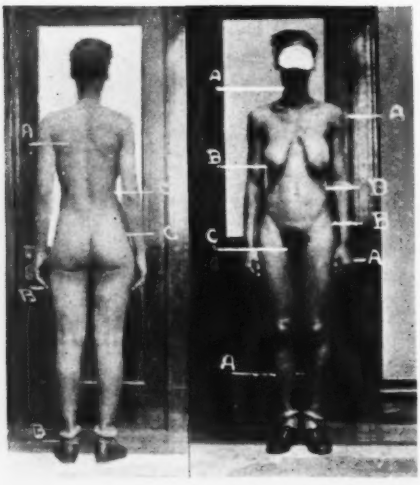

Fig. 1.—(Left) Showing masculinity of shoulders (A) and extremities (B). Note feminine conformity of waistline and buttocks (C).

Fig. 2.—Note large size of neck, shoulders and extremities (A) and the feminine type of breasts, abdomen and pelvis (B). (C) Deformed genitalia.

and the father having been disabled at the age of fifty by a stroke of apoplexy. Three sisters are in good health and apparently normal.

The patient has always been physically strong. "She" had measles at five years of age and a few mild attacks of bronchitis and tonsillitis during childhood. "Her" tonsils were removed in 1928. "She" does not use tobacco or alcohol in any form; drinks tea and coffee in moderation; is athletic, robust and introspective at times; attended a girl's school for years, from which "she" graduated.

Although the patient has considered "herself" to be a girl all "her" life, "she" expresses the opinion that "she" had rather be a boy; denies any attempts at sexual gratification with either men or women; has libido, but believes it is stronger for the female than the male; disclaims any knowledge of having ever had erotic dreams or nocturnal emissions, but remembers an instance of having once indulged in a revel of psychic masturbation, at the conclusion of which there was an orgasm, with the appearance of mucoid material at the urethral orifice.

Physical Examination

The *general appearance* is that of a well nourished, healthy, young individual in no acute pain. Is intelligent, alert and has a good soprano voice. The gait is somewhat "gawky."

Head and Neck: Facial mien that of a good looking woman; has a nice, fluffy head of hair, which grows to considerable length when not bobbed; has a small amount of soft moustache, but no beard; tonsils have been removed; head and neck otherwise negative.

Chest: The general contour and muscular development of the shoulders are distinctively masculine, while the chest is somewhat suggestive of the feminine, except for the size and firmness of the muscles surrounding the shoulder girdle. The breasts present an excessive amount of glandular tissue, pendulating to the lower border of the ribs; lactiferous ducts, well formed; nipples are of the usual size for a female, dark, fissured and retracted; no secretion is expressed. A dark circular area surrounds the nipples, which resembles a primary areola. Within this darkened region are a few small papules, arranged in semicircles and showing evidence of recent irritation. The chest is not covered with hair and is otherwise negative.

Extremities, masculine in size, shape and muscular development.

Abdomen, Feminine in contour and negative in other respects.

Genito-Urinary: The genital organs are markedly deformed. The mons veneris presents a masculine distribution of hair, which is arranged in an irregular, apical formation over the lower abdomen. Extending downward and backward from the mons pubis are two elongated sacculations, which form the lateral boundaries of an intended pudendal cleft. This apparent bifid scrotum is connected below by a thin fold

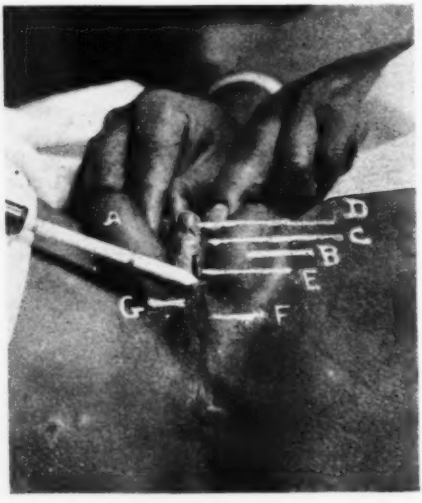

Fig. 3.—Malformation of external genitalia. (A) Apparently normal testicle and (B) cryptorchid gland in bifid scrotum; (C) left labium minus with prepuce; (D) clitoris; (E) urethra; (F) imprint of bulbocavernosus muscle, but absence of vaginal cleft at (G).

of membrane. Suspended within the right partition of this cleft scrotum is what appears to be a normal adult testicle, with its epididymis. The left portion of the sacculation contains a cryptorchid gland, with a rudimentary epididymis, both of which may be inserted, with the cord, into the inguinal canal of that side. The inguinal rings are slightly enlarged.

The labia minora are situated mesiad to the bifid scrotum and appear to be normal as to size and structure. Anteriorly, the labia minora enter into the formation of the *preputium clitoridis*, as normally obtains in the female. The erectile structure, presented at the anterior labial commissure, appears to be a normal clitoris, instead of an imperforate phallus. Its

prepuce is somewhat elongated and, wnen retracted, shows the pendulous portion of the clitoris to be no more than 2 cm. in length.

About two and one-half centimeters below the clitoris is the only opening present—that of the urethra. This urethral canal is about four or five centimeters in length and large enough, at its distal end, to admit of the tip of the examiner's finger. During one of the examinations, a jet of whitish, mucoid fluid was seen at the urethral orifice. Microscopic inspection of this material showed live, mature spermatozoa to be present, making it definite that the passage serves to conduct both urine and testicular secretion; as obtains in the male. The bulbocavernosus muscles appear to be present, but there is no evidence of a vaginal opening or vault, uterus, tubes, ovaries, prostate, seminal vesicles, Cowper's or Bartholin's glands.

Laboratory Tests:

Urinalysis: No female sex hormones found: Blood Wassermann test, negative; Hemoglobin, 70 percent: Coagulation time, five minutes: Blood pressure, 119 mm. over 86 mm: Pulse, 72, regular and of good volume: Temperature, normal: Spermatozoid bodies found in urethral smear.

X-ray examination of the skull, chest, pelvis and extremities reveals the following: A larger cranium than is generally found in a girl, but a pituitary fossa normal in size; films of the chest show it to be symmetrical; the pelvis is feminine in contour and of the justomajor type; the extremities appear normal, except that they are of the masculine variety; the osseous structures present no evidence of deformity or disease.

Comment

In consideration of the most suitable disposition to make of the sexual aberrant in general and the case of male hermaphrodism in particular, many difficult problems arise. Most of these probably have to do with a dyscrasic glandular system and disturbances of the nervous apparatus. The hermaphrodite presents, in addition to these, many physical deformities, most of which are not amenable to treatment.

In the case presented there was obviously a partial involution of the embryonic Wolffian structures, resulting in the formation of the rete testis and vas deferens, but no prostate nor seminal vesicles, in the opinion of several examiners. If the Müllerian ducts developed in this instance, they degenerated. The deformity existing in the genital gland has to do with the fact that in both sexes these structures develop from the epithelial layer of the early peritoneal cavity. Such a malformation of the external genitalia occurs when there is disorder in the regular developmental process.

The question arises as to the possibility of helping such a patient to adjust "herself" to the social order by surgery. Baldwin's operation of making an artificial vagina by means of an anastomosed loop of ileum was considered. It was not done, however, because of its rather high mortality of 6 percent, even in good hands, and being otherwise suggestive of meddlesome surgery. If an artificial vagina were made, it would not correct the fundamental problems involved. A comparatively safe operation — that of amputating the left cryptorchid and circumcising the phallus (?), in an effort to make the individual more nearly a male, may eventually be done. In such an event, it can be determined whether or not the body is an ovotestis, as was found in the case reported by Sinagaglia some years ago.

Subsequent observation of the patient during the past two years reveals that "she" is becoming more introspective and dissatisfied with "her" plight at being far afield in the "No Man's Land of Sex."

Summary and Conclusions

1.—Hermaphrodism, like other vagaries of sex, is deserving of scientific investigation and treatment.

2.—The types of pseudohermaphrodism are many and varied.

3.—The case reported presents difficult medical and social problems.

4.—Surgery has little to offer in aiding such individuals to become adjusted in society.

5.—Lacking positive, microscopic evidence to the contrary, the case presented is considered one of external, male pseudohermaphrodism.

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2.—Robinson, William J.: "Sexual Impotence." 15 ed., chap. 56.

3.—Huhner: "Disorders of the Sexual Function." 15 ed., chap. 9 and 10.

4.—Lewis, Warren H.: "Gray's Anatomy." 21 ed., pp. 1116 and 1215.

5.—Stewart, Francis T.: "Manual of Surgery." 4 ed., p. 648.

6.—Rosenbloom: *Physicians' Times Mag.*, vol. 2, p. 122.

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Congenital Atresia of the Esophagus*

(A Case Report)

By Charles H. Law, M.D., Atascadero, California

CONGENITAL malformation of the esophagus is rare, according to the various works on anatomy, embryology, pathology, obstetrics, pediatrics and surgery. A recent article by Ralph S. Graham, M.D., of Sacramento, Calif, in *California and Western Medicine*, in which he reports two cases, states that there is a total of only 233 cases recorded. In the necropsy service in Bellevue Hospital, only one case was found in sixteen years.

Case Report

The case I have to report was in a female child, born in Atascadero, Calif., April 25, 1932; weight, seven pounds; apparently normal in every way and well nourished; parents both healthy; mother a multipara; four previous children, all normal and lusty at birth; no anomalies in the family history on either side; three children are living and healthy, one having died at age six from acute rheumatic heart, according to the history given.

When called to attend this birth, at the residence, I found, upon examination, the woman's abdomen very large. Vaginal examination revealed a normal head presentation, with complete dilatation of the os. The slightest pressure on the head caused it to float out of reach. I waited about an hour and, there being no progress, gave 0.5 cc. of obstetric pituitrin and in ten minutes there was an easy delivery, but the liquor amnii that followed flooded the bed and floor; there must have been two gallons or more.

The baby breathed quickly but had a great amount of mucus in her mouth and throat, which interfered with respiration. When this was removed there was as much more in a few minutes; the child had to be watched constantly and inverted frequently to get the sticky, thick mucus out of her mouth, nose and throat so that she could breathe.

At the first and all subsequent nursings she regurgitated the milk, mixed with mucus, after drawing on the breast only seven or tight times. Meconium was passed and urine voided normally. She did not seem to be in any pain and usually rested and slept quite naturally for an hour or so after vomiting and strangling from the mucus and milk.

When five days old the infant had not had a normal stool, and instructions were given for a high saline enema. This was given, but with no results except the return of the water, colored with meconium. This was repeated, with the same result, several times. Being then convinced that some form of obstruction of the esophagus was present, I insisted that the father accompany me to the x-ray laboratory with the baby.

X-ray examination was made by Dr. John R. Ranson, just a week from the hour she was born. The baby took three drams of a barium meal as though she were starving. Not being able to take more, a picture was made quickly; then, almost at once, the barium began to be regurgitated, the same as all milk taken from the breast. The roentgenogram (Fig. 1) revealed a small pouch ending at about the third rib. Not a drop of barium went below this pouch; no gas was shown in the stomach; some gas bubbles were seen in the transverse and descending colon, due, no doubt, to the enemas given.

Several efforts were made to pass various sized soft-rubber catheters, and, even though guided by the finger as far down the throat as one could reach, the catheters would all turn back and come out. No blood showed, following the several attempts to pass these tubes.

Dr. F. R. Mugler was called in for consultation and the three of us convinced the father that it was a hopeless case and that surgery was of no avail. The child lived thirteen days and twenty hours, with never a drop of food in its stomach.

Permission for *necropsy* was given by the parents and we found as follows: All internal organs, normal (none were removed); stomach, as when born. We followed the esophagus up to the bifurcation of the trachea, where it ended, there being merely a cord from there to the bottom

*Read at a meeting of the San Luis Obispo County Medical Association (Calif.), May 21, 1932.

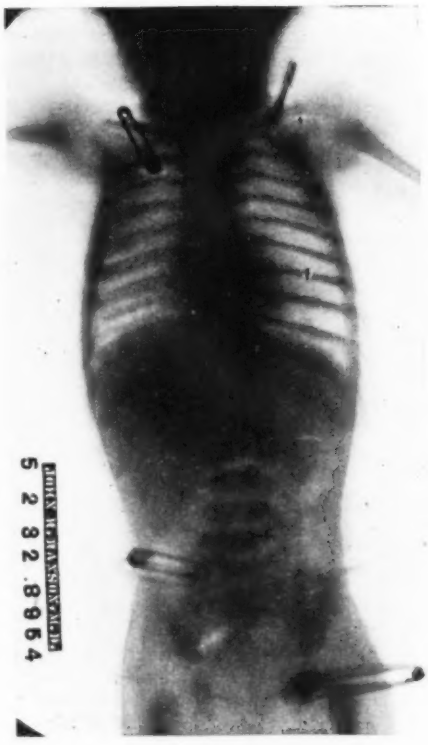


Fig. 1.

of the pouch. A metal probe was then bent and passed down through the mouth, and the entire pouch was thus clearly defined. More than moderate pressure on the probe failed to puncture the pouch, indicating a tough, membranous formation; the pouch was not dissected out, as we had promised not to disfigure the neck or head.

Discussion

Quoting from Dr. Graham's article, we find that Ballantyne classifies esophageal malformations into seven groups, as follows:

1.—Complete absence of esophagus.

2.—Termination of esophagus in a simple cul-de-sac.

3.—Termination of esophagus in a cul-de-sac, the lower rudiment of the canal communicating with the trachea or bronchi.

4.—Tracheoesophageal fistula; esophagus otherwise normal.

5.—Membranous obstruction of esophagus.

6.—Esophageal diverticula.

7.—Duplication of esophagus.

This case belongs in group two, as we have only a simple pouch or cul-de-sac. As seventy-five percent of all reported cases fall in group three, this case is one of the very rare ones.

Dr. Graham attempts to explain these anomalies of the esophagus as mechanical irregularities, as put forward by Zeit, McClellan and Elterich. His first case, in addition to atresia of the esophagus, had polydactylism of the right hand. I wonder how he would explain the mechanics, as illustrated for the esophagus, of the hand malformation.

In my opinion, the deformity is due to faulty conception—there is not a complete union of the ovum and spermatazoon. I think this faulty union of the male and female cells is the cause of all infant deformities. Just what causes the faulty union has not been, and I do not think ever will be, fully determined. We do know that certain diseases will cause some deformities; but here we have perfectly healthy parents, with several healthy normal children, and then this anomaly appears. It certainly makes one wonder as to the cause.

No surgical cures for this trouble are on record, although some report attempts at surgery, but always with failure.

DeLee says that internal deformities, such as occlusion of the esophagus and stenosis of the pylorus, are sometimes associated with polyhydramnion, but does not give the cause of either. However, this condition of polyhydramnion should put us on guard to look for trouble in the baby. I once attended in confinement a woman whose amniotic fluid filled a water bucket twice. Examination revealed a monster, which was delivered with instruments, after doing a craniotomy; the mother passing out within a few hours, in spite of all efforts to save her.

Diagnosis of congenital atresia of the esophagus is not difficult, with our present x-ray facilities, but the fact that so few cases have been reported and so very little written about them in our medical journals and other literature, makes the average physician slow to recognize a case when he sees it.

Since this case has become generally known, I have been told of two cases in San Luis Obispo County that died the same way several years ago. The births were

attended by midwives and, so far as I could learn, no physician was in attendance at any time. They reported the babies as nursing well and then vomiting, finally to die of starvation. No doubt there are many similar cases that have never been reported.

The x-rays are our only means for a positive diagnosis, but the symptoms I have enumerated herein should put us on our guard to look for trouble. They are: excessive mucus in the mouth, nose and throat; regurgitation of milk and strangling with the mucus and milk; short nursing period; and polyhydramnion in the mother.

The x-ray film is also invaluable in showing the parents the exact condition of the child and the hopelessness of the case.

Recent Progress in the Treatment of Cancer*

(Part II)

By Charles F. Geschickter, M.D., Baltimore, Md.

Surgical Pathological Laboratory, Department of Surgery, The Johns Hopkins Hospital and University

Lymphoid Tumors

IN TUMORS of the lymphoid group must be included neoplasms of the tonsillar stroma, thymus, spleen, lymph nodes, certain of the blood dyscrasias and the lymphomas of the soft parts and bone. Recent advancement in treatment of these tumors is entirely due to improved radiologic technic.

Important advances have been made in treating lympho-epithelioma and lymphosarcoma of the tonsils by means of irradiation. Prior to this the results with surgery were practically nil and cured cases were unheard-of. These lesions are best treated by combined external irradiation to the neck and surface application to the tonsil. By the more modern and improved radiologic technics, approximately twenty percent of these cases have remained well for from three to five years (Berven[7], Duffy[8]).

In the thymus, irradiation in the Hodgkin's and lymphosarcoma group is palliative, but ineffectual in the thymal carcinomas. In the lymph nodes, some cases of Hodgkin's disease may be controlled for five years or more by proper external irradiation; lymphosarcomas are definitely benefited; but the more malignant and atypical varieties of sarcomatous Hodgkin's disease, leukosarcoma or pseudo-leukemias are apparently not benefited, except symptomatically.

Improvement in treating Hodgkin's disease and lymphosarcoma in recent years has resulted from increased knowledge of the value of filtration in irradiation. Using 5 millimeters of aluminum and 50 centimeters skin-target distance, with the usual 200 kilovolt machine at 5 milliamperes, doses of 450 r. units may be administered to various areas over the body with safety. The usual error is for the radiologist to be too cautious and to give too little irradiation, with insufficient filtration.

In recent years, round-cell sarcoma of the soft parts and the small round-cell sarcomas of bone of the socalled Ewing's type have been demonstrated to belong to the lymphoid group of tumors. While these lesions are radio-senitive, the effects of the irradiation are temporary. The best form of treatment is that which combines pre-operative irradiation with surgery. More permanent cures in Ewing's lymphosarcoma of bone have been recorded in recent years, since radiologists have learned not to persist in irradiation after the period of maximum effect is passed, and to refer the case for surgery. It is important to note, however, that, by means of pre-operative irradiation, an inoperable tumor often becomes operable.

Tumors of Bone

Improvement in the treatment of tumors of bone has been enhanced largely by the

*Continued from the February, 1933, issue, pages 73-77.

[7] Berven, Elis G. E.: Malignant Tumors of the Tonsil: Clinical Study with Special Reference to Radiological Treatment. *Acta. Radiol.*, Supplement XI, p. 285, 1931.

[8] Duffy, James J.: Carcinoma of the Tonsil: Review of 122 Histologically Proved Cases Treated 1921 to 1928 Inclusive. *Surg. Gynec. & Obst.*, 54: 539, 1932.

more widespread use of biopsy. While a few decades ago it was common to look upon sarcoma of bone as incurable, today, in the larger clinics, the permanent five-year cures average from five to thirty percent, varying with the type of tumor. While biopsy, preceding radical resection or amputation by an interval of days, is not detrimental to permanent cure, incomplete operation, such as excision or curetting, unless followed by adequate therapy, destroys the effectiveness of more radical surgery, when this is instituted after an interval of weeks or months. Such incomplete operations are more dangerous than delay on the part of the patient.

Recently Dr. Bloodgood has advocated preliminary irradiation for all bone tumors suspected of malignancy. In certain varieties of bone cysts, in benign giant-cell tumor and in Ewing's sarcoma, such irradiation has a definite therapeutic value. Bone cysts and giant-cell tumors may be cured by such irradiation.

The various forms of osteogenic sarcoma, however, are radio-resistant. In such cases the benefit of preliminary irradiation is to convince the patient and the family of its ineffectualness and to secure permission for the radical resection or amputation essential for a permanent cure.

In the upper extremity, radical resection offers as much as amputation. In the lower extremity, amputation, with an artificial limb, gives better functional results than resection.

In metastatic carcinoma of bone, irradiation relieves pain and prolongs life by several months. It does not, however, prevent a fatal outcome.

Tumors of The Digestive Tract

Carcinomas of the digestive tract are most frequent in the stomach and in the large bowel, being approximately twice as frequent in the stomach as in the colon and rectum. Malignant tumors of the small intestine are rare. With the perfection of gastric surgery and the technic of such operations as entero-enterostomy and resection of the large bowel and rectum, progress in the treatment of cancer in these regions has come wellnigh to a standstill. Cancer of the stomach, the most common of all forms of cancer, is still inoperable in over three-quarters of the cases at the time of diagnosis (Balfour[9]). In the resectable cases, the opportunity for permanent cure is about twenty percent and, in most series of cases, the permanent cures do not average so high as the operative mortality.

Improvements in the technic of fluoroscopic and x-ray diagnosis of gastric lesions has increased the number of early carcinomas subject to treatment and has increased the number of resectable cases, but not markedly so. Better pre- and post-operative care has lessened operative mortality and modifications in the Billroth I type of resection, and in the Polya operation, must be counted as steps in the progress of treating cancer in this organ. Carcinomas of the stomach are not radio-sensitive. Yet irradiation has not been carefully studied in certain types of these tumors, such as mucoid carcinoma.

In carcinomas of the large bowel, the permanent cures are more common than in the stomach—between ten and fifteen percent in the colon (based on 192 cases in Johns Hopkins Hospital), with an operative mortality of approximately twenty-five percent; and something over seven percent in carcinoma of the rectum (based on 319 cases in the Johns Hopkins Hospital), with an operative mortality of fifteen percent. Careful pre-operative treatment, with the use of a non-residue diet and colonic irrigations, has lowered the post-operative mortality in recent years in colon surgery. Despite the increased accuracy of diagnosis, possible with the x-ray examination following a barium enema, early diagnosis, still the most important factor in curability, is not frequent in cancer of this region (Raiford[10]). In inoperable cases and in recurrences after operation, a few good results have been reported with radium and deep x-ray therapy.

Cancer of the Gonads: Sex-Cell Carcinoma

Two important advances have been made in recent years in dealing with tumors of the male and female sex glands. One of these is the use of the Aschheim-Zondek test, to ascertain the presence of the tumor by means of biologically testing the urine of the patient (Ferguson, et al[11]), and the other is the improvement in the treatment of these neoplasms by irradiation. In patients with teratoma or solid carcinoma of the ovary or a seminoma or teratoma of the testis, the urine, if injected into virginal female mice,

[9] Balfour, D. C.: Curability of Cancer of the Stomach. *Surg. Gynec. & Obst.*, Feb. 2A, p. 312. Vol. LV, 1932.

[10] Raiford, T. S.: Carcinoma of the Large Bowel. To be published.

[11] Ferguson, R. S., et al.: A New Method of Differentiating the Testicular Tumors, etc. *Am. Jour. of Cancer*, Vol. XV, p. 835, 1931.

will produce changes in the ovary indicating the presence of a hormonal substance supposedly secreted by the anterior pituitary lobe and known as Prolan A. This test (Aschheim-Zondek reaction) is positive, and quantatively increases, as the tumor becomes more virulent, invasive and metastasizes.

If the tumor has been extirpated or destroyed by irradiation, the test becomes negative, to reappear with recurrence or with the return of metastases. The test is not only, therefore, valuable for diagnosis, but also in prognosis and in determining the course of treatment.

Both the solid ovarian carcinomas and teratoma testis in all its forms, are radiosensitive. With improved methods of irradiation, the results are better than those previously obtained by surgery.

It is important to mention here that many of the benign lesions of the uterus, including myomas and endometriomas, can be successfully controlled by irradiation of the ovaries. The use of irradiation in this field has been an important adjunct to the treatment of tumors of this type.

Cancer of The Kidney

Tumors of the kidney, formerly considered as arising in misplaced adrenal tissue (hypernephroma) or of a teratomatous nature (Wilm's mixed tumors), have been demonstrated to be of true nephrogenic origin.

The socalled hypernephroma is a papillary carcinoma of renal epithelium, occurring in adults, and cures are extremely rare in these cases. Hematuria is probably a late symptom of this tumor and, in many cases, it is preceded by signs of skeletal metastases. Urography, by means of the intravenous injection of iodides and other substances, has been a distinct advance in the diagnosis of renal lesions, and has enhanced curability by aiding early diagnosis. In the Wilm's tumor in the kidney of children (socalled adenosarcoma or mixed tumor), permanent cures by surgery are still more rare but, unlike the hypernephromas, this tumor is radiosensitive. Good results to date have been reported with pre-operative irradiation, followed by nephrectomy, but it is still too early to estimate the probability of permanent cure in these cases (Dean[12] & Pack), (Prather and Crabtree[13]).

[12] Dean, A. L. and Pack, G. T.: Embryonal Adenosarcoma of the Kidney. *J. A. M. A.*, Vol. 98, p. 16, 1932.

[13] Prather, G. C. and Crabtree, E. Granville: Kidney Tumors in Children. *Jour. Urol.*, June, 1931, XXV, 589-612.

Cancer of The Breast, Prostate, Ovary, Uterus and Thyroid

The more frequent epithelial tumors in these organs have much in common. In all of them the benign tumors predominate and cancer may occur secondarily to such benign growths. In all of these organs the epithelial tumors are relatively radio-resistant and borderline lesions, in which the distinction between benign and malignant growths is particularly difficult, are frequent. All of these organs show some relation in their pathology to the sexual functions and, although embryologically of varied origin, may be conveniently grouped from the standpoint of therapy. All are readily extirpated, although in the thyroid sub-total removal is necessary for the preservation of the parathyroids.

Carcinoma of the Breast: In carcinoma of the breast, body of the uterus and ovaries, cures following the complete extirpation of the organ are not rare. The complete operation of Halsted for cancer of the breast, when the axillary glands are not involved, yields slightly over 70 percent of five-year cures, which are reduced to from 30 to 10 percent (average about 15 percent) when the regional lymph nodes are involved. The more widespread use of biopsy in the diagnosis of breast tumors and the careful evaluation of the clinical indices of malignancy, such as age, lactation and extent of involvement, have improved treatment in this field (Taylor[14]). On the one hand, accurate microscopic diagnosis has avoided unnecessary mutilation in the cases of chronic cystic mastitis, formerly interpreted as cancer; and, on the other hand, more adequate recognition of inoperability has inaugurated an era of interstitial irradiation, which sometimes holds the disease in check (Lee[15]).

Lewis and Rienhoff[16], in their study of 950 cases of carcinoma of the breast at the Johns Hopkins Hospital, between 1889 and 1931, found that 71 percent had metastasis at the time of operation, and that the operative mortality was 6.4 percent. Of the 517 cases either known to be dead, or living and followed for more than five years, 151 survived the operation by five years or more,

[14] Taylor, G. W.: Cancer of the Breast. *International Abstracts of Surgery*, Supplement to *Surg. Gynec. & Obstet.*, Vol. LV, p. 1, July, 1932.

[15] Lee, B. J.: Interstitial Irradiation of Mammary Cancer with Special Reference to Measured Tissue Dosage. *A. J. Roentgenol.*, xxvii, p. 547, 1932.

[16] Lewis, Dean and Rienhoff, W. F.: A Study of the Results of Operations for the Cure of Cancer of the Breast. *Annals of Surgery*, Vol. XCV, March, 1932, p. 336.

giving approximately 30 percent of five-year cures.

Because of this low over-all curability in all types of carcinoma of the breast by operation, and the wide area that must be treated, neither the standard methods of surgery nor interstitial irradiation appear to offer a great deal for the late case of carcinoma of the breast, diagnosed after the appearance of regional metastases. Those who believe in the future of irradiation, believe that treatment of inoperable breast carcinoma by external irradiation, with supervoltage x-ray machines, has definite possibilities. Such super-voltage x-ray machines, operating at from 500,000 to 750,000 volts, are being used in the treatment of carcinoma cases in two places in the United States, New York and California. The advantage of this high voltage is the penetrating power of the rays, the greater filtration used (the equivalent of 5.5 millimeters of copper) and the increasing amount of irradiation possible without causing serious skin reactions. It is still too early to estimate the value of this type of irradiation by the super-voltage x-ray machine.

Carcinoma of the Prostate: Carcinoma of the prostate is still an inoperable disease, in 95 percent of the cases, at the time of diagnosis (Geraghty[17]), and radical prostatectomy, in the extremely limited number of cases where it can be used, is accompanied by an operative mortality approximating 20 percent. For this reason, various new methods have been devised for the treatment of these tumors by interstitial irradiation. The radium is applied by special applicators, via the suprapubic or perineal route. Caulk and Boon-itt[18] believe that the cautery punch operation, in conjunction with radium and x-ray therapy, appears to be the method of choice for relieving obstruction and retarding the progress of the disease. Twenty-nine percent of their patients lived over three years and 10 per cent over five years—a longer duration of life than that afforded by prostatectomy.

Carcinoma of the Ovary: The commonest variety of carcinoma of the ovary, papillary adeno-carcinoma, is apparently unrelated, in its growth characteristics and clinical behavior, to the sex-cell tumors previously discussed. The lesions are radio-resistant and are prone to transplant to the peritoneal surfaces and recur, rather than to extend by means of metastases. It is always important, in such papillary adenocarcinomas with peritoneal transplants, to determine the histologic type. In the pseudo-mucinous form of growth, cures may be established, in the face of such transplants, by wiping and cleansing the peritoneal surfaces; whereas, in the sero-cystic form, such peritoneal transplants usually signify fatality.

Bell and Datnow[19] emphasize that treatment for ovarian cancer can be improved by more adequate surgery on the innocent neoplasms. While, with these lesions, conservation of ovarian substance and the uterus should be attempted in young women, in parous women or after the menopause, bilateral salpingo-öophorectomy with panhysterectomy should be practiced.

Carcinoma of the Corpus Uteri: In carcinoma of the body of the uterus, both radical operation and irradiation have established permanent cures. Whereas, in routine operative procedures for the cure of carcinoma of the body of the uterus, those remaining well over five years average only between five and ten percent, in the Radiumhemmet[20] there have been approximately 33 percent of five-year cures, in a series of 85 cases treated between 1913 and 1923*. The radiologic technic used is similar to that used for carcinoma of the cervix, except that, in cases of cancer of the corpus, the vaginal dose is limited to two-thirds of the total vaginal dose usually given in cases of cancer of the cervix; i.e., about 3,000 milligrams of radium-element-hours. If, at the end of about two months after concluded treatment, the patient is still troubled with hemorrhage or discharge, indicating that healing has not taken place, then hysterectomy is performed.

Carcinoma of the Thyroid: Carcinomas of the thyroid are fortunately uncommon. Their recognition is particularly difficult, since the malignant tumor usually follows upon a benign adenoma and malignant swellings are difficult to distinguish from benign enlargements, clinically, until infiltration has occurred (Clute and Warren[21]).

[17] Geraghty, J. T.: Treatment of Malignant Diseases of Prostate and Bladder. *J. Urol.* 7: 33, 1922.

[18] Caulk, John R. and Boon-itt, S. B.: Carcinoma of the Prostate. *Amer. Jour. of Cancer*, Vol. XVI, p. 1024, Sept. 1932.

[19] Bell, W. Blair and Datnow, M. M.: Ovarian Neoplasms. *Am. Jour. of Cancer*, Vol. XVI, No. 3, p. 439, May, 1932.

[20] Radiumhemmet: "The Technic in the Treatment of Tumors at Radiumhemmet, Stockholm," by E. Berven, J. Heyman and R. Thoraeus, Stockholm, 1929. Kungl. Boktryckeriet. P. A. Norstedt & Söner, 290690.

[21] Clute, H. M. and Warren, Shields: Cancer of the Thyroid Gland. *Am. Jour. of Cancer*, Vol. XV, p. 2563, Oct. 1931.

*In various series of cases treated surgically, the cures run from five to fifty percent and various series treated radiologically from thirty to eighty-seven percent, dependent upon the selection of cases.

The poor results obtained by surgical measures have led to various methods of irradiation, which, however, to date, have not proved encouraging.

Carcinomas of The Liver, Pancreas and Adrenal

Primary carcinomas of the liver, pancreas and adrenals, although infrequent, practically are uniformly fatal. No recent progress has been made in their treatment.

Summary

Outstanding among recent advances in the management of precancerous lesions are the use of vitamin A in leukoplakia of the mouth and in keratotic lesions of the skin; renewed emphasis on periodic pelvic examinations in mothers and the early repair of any lesions found; the use of low-voltage x-ray therapy, with low filtration, for the various early cancerous and keratotic lesions of the skin; and the use of the endotherm to excise and thoroughly cauterize the base of polyps of the mucous membrane, which may harbor early cancer at their base.

Important advances have been made in the radiologic treatment of epidermoid tumors, lymphoid tumors, tumors of the sex glands and the infantile kidney.

Radiologic technic has been improved by increasing the safety and the amount of irradiation through heavier infiltration, by combining interstitial and external irradiation, and by fractional doses over longer periods of time (Coutard).

A new type of irradiation has been devised, in the form of the super-voltage, deep x-ray machine.

In the posterior portion of the oral cavity and in the female cervix, combined interstitial and external irradiation have produced better results than interstitial irradiation alone.

About the neck, surgical resection of the metastatic nodes, after preliminary irradiation, has still further increased the number of permanent cures. External irradiation has been improved by the Coutard method of alternating ports of treatment on alternate days and giving fractional treatments each day for a period of three weeks.

In the epidermoid tumors, irradiation has been improved by controlling the treatment by microscopic grading; and in sex-cell tumors of the testis and ovary, similar advances have been made by following the progress of treatment through the Aschheim-Zondek test.

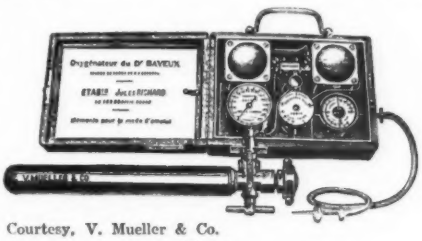
In surgery, the most recent advances include the perfection of operative technic by the use of electro-surgery for brain tumors and more adequate pre-operative treatment for gastrointestinal cases, particularly those with cancer of the large bowel. Major improvements have followed upon the more careful selection of the cases submitted to operation in all types of cancer, based upon knowledge of the degree of malignancy gained by biopsy, more careful choice between the use of irradiation and surgery or the combined treatments of irradiation and surgery; and finally upon a finer distinction between the operable and inoperable cases, based upon such factors as age, extension of the disease, the factor of pregnancy, the tumor site, histopathology, etc.

Without regard to new discoveries, persistent progress in the treatment of cancer follows inevitably upon a more scientific conception, on the part of an increased number of practitioners, in regard to the management of tumor cases. More scientific management implies, not only the latest type of treatment, but a biopsy to verify the microscopic nature of the disease and a careful follow-up record to determine the ultimate result of treatment. Improved records must be kept to show the operability or inoperability of the case treated, in terms of the microscopic grade of malignancy, the duration of the disease at the time of treatment, the age of the patient, the extent of the disease and the presence or absence of metastases to the regional nodes and to more distant organs such as the lungs, bone or liver, as the case may be. Not only must such data be recorded and preserved, along with the microscopic record and repeated follow-ups of the case, but a uniform technic of treatment should be employed over a period of years in a given type of case, so that the results can be more easily interpreted in comparing large series of cases.

Subcutaneous Oxygen Therapy

By Oliver B. Simon, M.D., Batavia, Ill.

EVERYONE admits the logic of oxygen therapy, to a certain extent at least. It has been used more and more in recent years, and, chiefly by the inhalation method, for many years. A great many devices have been utilized, such as conducting the oxygen by catheters or rubber tubes into the nose and throat or to a funnel over the nose and mouth or to specially made inhalation masks, either direct from the tank or passing through water before reaching the patient. In recent years the so-called oxygen tent has been widely advertised to the profession by commercial concerns.



Courtesy, V. Mueller & Co.

Fig. 1.

A few years ago the idea of giving oxygen subcutaneously was considered, but there were certain difficulties to be overcome in the administration, so the method has not become popular and, in fact, is almost unknown in this country. The difficulty was in the proper control and regulation of the gas pressure, so as to avoid possible dangers in its use. These difficulties have been overcome by the use of a contrivance or machine built by Dr. Bayeux, of Paris, France, and the subcutaneous method has become quite popular in Europe, at least, as evidenced by the appearance of considerable literature on the use of the method.

Let us consider the two methods, as to their advantages and disadvantages:

First: Inhalation of undiluted oxygen may irritate lung tissue and aggravate illness, even if the gas is warmed or passed through water; whereas, when given subcutaneously, the oxygen is taken up by the blood directly, without coming in contact with lung tissue.

Second: The inhalation method is useless if the absorption area of the lungs is much reduced by accumulation of secretions, as in the pneumonias, pulmonary edema and pulmonary hemorrhage.

Third: The inhalation method is useless in obstructive conditions, such as edema of the glottis, laryngeal diphtheria and chest paralysis; whereas the subcutaneous method is useful in all of these conditions, in addition to many others, such as exhaustion states of septicemia, pyemia and toxemias, chills, uremic convulsions and all forms of shock. It lessens post-anesthetic nausea and vomiting, if given immediately after operations.

The dangers of the subcutaneous method must be borne in mind, but can be easily avoided by following the proper technic in its use. The main dangers are that the needle may be inserted into a blood-vessel or into an area having a broken bloodvessel, either of which might aspirate the gas into the circulation and cause embolism.

Another danger is that the pressure might rupture small bloodvessels and the gas be drawn into the blood stream. The maximum safe pressure is 40 grams per square centimeter, so if the gas pressure is kept under that amount there is no danger or risk of rupturing the small bloodvessels.

Apparatus and Technic

The oxygen machine invented by Dr. Bayeaux seems to meet all of the requirements of the subcutaneous method of giving oxygen. It has a small, detachable gas tank, with a capacity for 15 liters of oxygen gas and, when it is empty, it can be refilled from an ordinary oxygen tank by a special attachment. This small tank has to be attached to the apparatus during the administration of the gas. The valve on the tank is opened, allowing oxygen to go into the special chambers, which hold over a pint of gas if the pressure is sufficient. When the gage connected with the gas chambers stops its rise it indicates that the pressure in the chambers is equal to that in the tank and then the tank valve is closed tightly.

A pressure-reducing valve controls the flow of the gas at rates varying from 0 to 500 cc. per minute. A special manometer gage, of the aneroid type, measures the

pressure in the tube which goes to the patient. The pressure may be either positive or negative. The control valve must be closed to zero while the needle is inserted through the skin. If the pointer on the manometer gage now turns to either a positive or negative reading before opening the control valve, we know that something is amiss and the needle must be removed from that area and inserted into another distant area, such as on the opposite limb, where the indicator must remain at zero. A positive deflection indicates that there is back pressure from subcutaneous hemorrhage or that the needle is in a bloodvessel. A negative reading indicates suction, as from inserting the needle into a vein or into an area where there is an open or torn vein, with negative pressure. If the manometer gage stays at zero, conditions are ready for the opening of the control valve, to inject the oxygen into the subcutaneous areolar tissues.

In the regular commercial oxygen tanks there is a very high pressure and it would be very dangerous and foolhardy to conduct such a force directly into the tissues without the proper regulators. The pressure in a full tank of oxygen is, I believe, around 1500 pounds to the square inch.

The tissues, in some patients, are reasonably elastic and allow a rapid administration of the oxygen; whereas, in other patients, they are decidedly inelastic and the administration of the gas has to be done very slowly. The subcutaneous pressure, as indicated by the manometer gage, must not be allowed to exceed 40 grams per square centimeter. The oxygen may be introduced at any rate from 0 to 500 cc. per minute, provided the subcutaneous pressure does not exceed 40 grams; however, the optimum rate is considered to be about 30 cc. per minute, although I have frequently given it at the rate of 50 to 75 cc. per minute.

The dose may be measured accurately by computing the rate and length of time. The average dose, with this method, is about 500 cc., repeated according to indications. I have given as much as 1000 cc. per dose, and even more in badly cyanosed pneumonia patients, and also in septic cases, where the tissues seemed to have great avidity for the oxygen. The system will absorb the oxygen according to its requirements and the administration should not be repeated until the absorption is completed, as indicated by the absence of crepitation in the area where the gas has been injected. If the oxygen is not absorbed in 10 or 12 hours, I am of the opinion that it is not needed by the patient's system. The oxygen must not be given twice in succession in the same area, unless the subcutaneous tissues have had time to regain their elasticity, which is necessary to facilitate absorption of the gas.

If there is very severe cyanosis, it is advisable to distribute the oxygen to two or three separate areas, injecting 200 to 300 cc. into each area. The average severe case of pneumonia will be quite comfortable when injections are made every 12 hours, and the disease is greatly ameliorated and its duration shortened. It may be necessary to give the oxygen every 4 or 5 hours, if the patient is much cyanosed. The benefit of the oxygen injection is often so marked that the patient, himself, will speak of it, and may even request that the injection be repeated when his dyspnea begins to return.

Oxygen therapy, where indicated, is compatible with any and all sorts of treatment, and is a very necessary adjunct in the treatment of anoxemia. However, oxygen is not expected to overcome the shortcomings of wrong treatment, as, for instance, the giving of digitalis in the acute, toxic stage of lobar pneumonia, where it is so often fatal to the life of the patient.

In the management of the pneumonia case it is vital that the nursing care must be of the very best. The nurse must be given very explicit instructions to be on the alert for any unfavorable changes in the condition of the patient and to make early and frequent reports to the attending physician direct, by telephone. Without the close cooperation of the nurse in treating pneumonia, the most skilled doctor's efforts may prove futile.

Most of the oxygen tents on the market are very uncomfortable to the patient, because of the difficulty of maintaining the proper percentage of oxygen and of regulating the temperature and humidity inside of the tent. This is more difficult in hot summer weather. The subcutaneous method obviates all of these details, which are so annoying and disconcerting to the patient's mental and physical comfort and wellbeing. These bad features of the tent method practically nullify any possible benefits, in addition to having the disadvantages mentioned. The subcutaneous method, with

proper technic, can be used in all conditions requiring oxygen. The Bayeux oxygen machine is small in size and light in weight, and is easily carried in an ordinary Boston bag. I believe that the subcutaneous method is destined to supplant the inhalation method in a few years.

If any physician or hospital is considering the installation of oxygen equipment, I should advise the investigation of this method most thoroughly before doing so. It is by far the best, as well as the most economical. I have used my Bayeux Oxygen machine since 1928 and have been more than gratified by its efficacy and success in a great many cases. There is much more that can be written about this method, but it is not the purpose of this paper to exhaust the subject.

I claim no originality for what I have here written. It has been passed on to me by my friends who have access to the French and other European literature on the subject. My experience has convinced me of its value and practicability. So very little has been written about subcutaneous oxygen therapy in American medical literature that I felt that it was the duty of someone to pass the good word along to our profession.

5 E. Wilson St.

Vivisection

Here let me frankly face criticism that has been directed against the methods of our laboratories, and has resulted in a most lamentable impediment to the advance of medicine. Without experiment on living animals, that advance, already greatly hampered, cannot continue. I recognize and endeavour to understand the motives which animate powerful bodies of noble and highly gifted men and women who are opposed to experimental methods.

No right-minded man ever wishes to inflict suffering upon man or animal. That is abhorrent to us all. Opposition to animal research, I firmly believe, is based upon lack of appreciation and understanding; as it is certainly supported by grievous and, I think, unpardonable misstatement. Day by day for many a year it has been my happy duty to operate on men, women and children, who now number a goodly company, in order to save life or bring relief. My heart is full of compassion. I cannot bear to cause or even to hear of suffering. Every one who has experience of laboratory work knows how little pain is inflicted, and what steps are always taken to minimize or abolish it. Yet the slight distress we must occasionally impose in our work upon man is greater in intensity, and far more protracted, than any suffered in our laboratories. It is simply not the truth to say that pain is wantonly, or unavoidably, inflicted there. The experimenter who excites suffering defeats his own aims, for pain changes the issues he seeks to discover.

Physiologists and surgeons are the most humane of men. The necessities of their work would impose this quality, if it were not already possessed. The whole antivivisection campaign, though a great testimony to the tenderness of heart of its supporters, has no slightest foundation in truth, and is a witness to their shut-mindedness and credulity.—Lord Moynihan, *in "The Advance of Medicine."*

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The Treatment of Flat Feet by Corrective Exercises

By J. C. Elsom, M.D., Madison, Wis.

THERE is an Arabian proverb to the effect that a man is as happy as his feet will allow him to be. It is certainly true that excessive discomfort attends most foot troubles, and much of human misery is caused by corns, callosities, bunions, verrucae, ingrown nails, flat feet and the like.

The wearing of improper shoes is in large measure responsible for most of these painful foot conditions. Civilization and fashion demand rather heavy tolls from most people, and even children are not exempt from the damage caused by ill-fitting footgear. Cramped toes gradually become deformed and crowded together and lessen the natural springiness of gait and general foot efficiency.

The foot has been compared to a tripod of weight-bearing and propelling surfaces. The os calcis represents one leg of the tripod, the big toe and inner forefoot another, while the smaller toes and outside of the forefoot correspond to the third leg of the tripod. When the toes are cramped and pressed together, the tripod assumes a less stable form. The foot has a tendency to pronate and the weight-bearing surface shifts to the inner border of the foot, which is poorly supported anatomically. The os calcis becomes tipped and the whole foot everted. This is particularly noticed from behind. This abnormal position throws extra strain on the long and short plantar ligaments, as well as the muscles concerned in the support of the foot. The result is gradual weakening of ligaments and muscles and collapse of the normal arch, which becomes more or less marked. Undue pressure is established, usually causing foot pains and disability. Painful sensations are frequently referred to the calf region and even may extend to the thigh and hip, and some degree of backache may also be a symptom.

Muscular weakness, combined with improper gait, seems to be the most fruitful cause of flat foot. This is especially evidenced in children. When the toes are turned outward in walking (the socalled "splay-foot" condition), the body weight is thrown on the inner borders of the feet. This posture is in itself a considerable contributing factor in *pes planus*. Excessive weight-bearing, occupations which demand long continued standing positions, obesity, and sometimes pregnancy, are all factors in the causation of "fallen arches." Curiously enough, the painful symptoms are not always in proportion to the degree of foot

Left to right: (1) Normal Foot Imprint; (2) Beginning or Slight Degree of Flat Foot. Notice Slight Lines of Depression on Inner Border; (3) Second Degree Flat Foot; (4) Third Degree Flat Foot; (5) Pes Cavus. Abnormally High Arch. Painful Symptoms Often Presented.

flatness. Some cases of extreme flat feet seem to cause no pain, while slight cases are sometimes productive of extremely painful sensations. Racial characteristics are sometimes evident, in which a low arch seems the normal condition. Pain is not often present in these latter conditions, the disability showing itself chiefly in a rather shuffling and ungraceful gait, unlike the springy walk characteristic of good feet.

Diagnosis

In the diagnosis of flat feet, one has to differentiate from arthritis, in which condition symptoms similar to those of flat-foot present themselves; and from corns, callosities and plantar warts, which are very common and often painful. Acute foot strain must also be ruled out. This condition results from prolonged and unusual use of the feet; for example, a long walk when one is not used to such exercise, excessive golf playing, carrying a pack considerable distances, and many forms of athletic exercises, such as jumping and running, excessive dancing and other exercises, into which one plunges too suddenly without adequate training. The symptoms of foot strain are those of over-exertion and are usually more or less temporary. Myositis is the chief cause of the pain. Obviously, in these cases, rest is indicated.

As an aid to diagnosis, the recording of permanent **foot prints** is helpful. Temporary foot prints may, of course, be made by wetting the foot and stepping on the floor. Permanent prints are valuable in showing the degree of flatness of the foot, and are useful for comparison from time to time during a course of treatment.

There are several methods of recording these prints. I have found the following to be an easy procedure, and one which secures absolutely permanent prints at little cost. A solution is made containing: water, 3 ounces; glycerine, 1 ounce; tincture ferric chloride, 1 ounce. This is painted thoroughly over the sole of the foot by means of a cotton swab. The patient then places his foot on a piece of white paper and bears his weight on it. This leaves traces of the solution on the paper, which is immediately dusted with dry tannic acid. This leaves a permanent, inky imprint. The foot of the patient is not stained by the solution, but care must be taken that the damp foot does not come into contact with the tannic acid. Several prints made by this method are here presented.

Treatment

The treatment of *pes planus* consists in orthopedic appliances and in corrective exercises, according to the varieties of the dysfunction. Cotton's classification of flat foot is as follows: (1) Habitual, or reducible. This comprises a majority of the cases, due largely to muscular weakness, especially of the tibialis posticus, flexor longus hallucis and flexor longus digitorum; (2) rigid, or spastic. This form is generally connected with spastic conditions, due to a variety of pathologic nervous causes. Pain is a prominent symptom; (3) bony.

In these cases, there are more or less bony displacements and inequalities, in which orthopedic operation may be necessary.

It is not the function of this paper to discuss orthopedic treatment, such as Thomas heels or shoes, strapping with adhesive, arch supports, pads of various sorts, etc., but these forms of treatment are in many cases obviously necessary. As adjuvants to other forms of treatment, corrective exercises will be described here.

1.—Correct gait is a prime consideration. The proper position of the feet in walking is the maintenance of a parallel position of the feet. They should never be turned outward; one should walk with the feet pointed straight forward.

2.—When the toes are turned inward, a corrective position is established. The socalled "pigeon-toed" gait should be consciously practiced for a considerable period each day. A strong exercise of this nature is the following: in the standing position the toes should be sharply turned inward, with the heels well separated. From this position the patient should rise sharply on the toes from 20 to 50 times or more.

3.—The feet are placed parallel; the patient throws his weight on the outer borders of the feet and assumes the varus position. This exercise should be repeated slowly until some fatigue is felt. Walking a few steps on the outer sides of the feet may likewise be practiced. A similar exercise, but more moderate, is taken while the patient is seated. The legs are outstretched; the patient attempts, by strong muscular action, to place the soles of the feet together. This of course cannot be done, but the attempt brings into play the muscles which directly strengthen the arch.

4.—Considerable relief is afforded, in painful *pes planus*, by crossing the feet while seated; thus the varus position is assumed passively.

5.—In the recumbent position, the knees should be extended alternately, as in the pedalling position on a bicycle, making large circles in the air with the feet and legs, pushing with the heels on the upward motion, with sharp plantar flexion on the downward motion.

6.—One should stand with the toes over the edge of a low, flat stool, bench or similar support, and forcibly exercise the toes in plantar flexion. A similar exercise may be done by walking barefoot, or with light shoes with flexible soles, along the rungs of a ladder placed on the floor. The toes should be turned inward somewhat and should grip the rungs of the ladder with each step. Two ladders may be used, placed side by side and elevated in the middle by some support. This forms an angle like the roof of a house. The angle, however, should not be too sharp (about 150 degrees). This is a splendid corrective movement, but must not be used until the muscles have become strong enough to do the exercise without causing pain.

7.—A simpler exercise consists in walking along an imaginary line, the right foot stepping over the left side of the line, and the left foot stepping over the right side of the line.

The object of all of these exercises, and many similar ones, is to strengthen the muscles directly concerned in the support of the arches. The exercises should be begun mildly and continued with great regularity for weeks or months. It has been my experience that many cases of *pes planus* are materially benefited by these exercises, which should be used in conjunction with the usual orthopedic measures. Since the continuous wearing of arch supports tends eventually to weaken the muscular groups, regular exercise of the muscles concerned seems altogether desirable and beneficial.

University of Wisconsin.

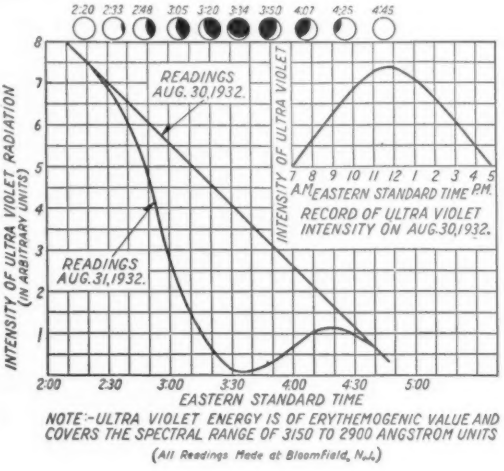
The Physician

To give courage to those who need it, to restore desire for life to those who have abandoned it, with our skill to heal disease or check its course—this is our great privilege. Ours are not the mild concerns of ordinary life. We who, like the Happy Warrior, are "doomed to go in company with Pain and Fear and Bloodshed," have a higher mission than other men, and it is for us so to labour that we may prove not unworthy.—Lord Moynihan, *in "The Advance of Medicine."*

CLINICAL MISCELLANY

Sunburning Ultraviolet not Reflected by Sky Dome

THE theory that the "sky dome" of clouds and rarefied atmosphere is a reflector of erythemogenic ultraviolet radiations was disproved by the readings made during the recent eclipse (August 31, 1932), by Dr. J. W. Marden, Assistant Director of Research, Westinghouse Lamp Company, Bloomfield, N. J.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INTENSITY OF ULTRA VIOLET RADIATION (IN ARBITRARY UNITS)
READINGS AUG. 30,1932.
READINGS AUG. 31,1932.
INTENSITY OF ULTRA VIOLET
A.M. 7 8 9 10 11 12 1 2 3 4 5 P.M.
EASTERN STANDARD TIME
RECORD OF ULTRA VIOLET INTENSITY ON AUG. 30,1932.
2:00 2:30 3:00 3:30 4:00 4:30 5:00
EASTERN STANDARD TIME
NOTE:-ULTRA VIOLET ENERGY IS OF ERYTHEMOGENIC VALUE AND COVERS THE SPECTRAL RANGE OF 3150 TO 2900 ANGSTROM UNITS
(All Readings Made at Bloomfield, N.J.)

Using an ultraviolet meter, actuated by a titanium cell, Dr. Marden found that the intensity of "sunburning" ultraviolet decreased almost to an immeasurable quantity at the moment of totality, *when* in New Jersey 95 percent of the sun's apparent disc was obscured by the moon.

A curve plotted from the figures obtained by Dr. Marden diverged from one drawn from readings made August 30th, the day before the eclipse, as shown in the accompanying illustration. The fact that the intensity of ultraviolet dropped as the obscured area of the sun increased, tends to indicate that the sky dome does not reflect ultraviolet rays of a sunburning wave length, the kind a titanium cell records. WESTINGHOUSE TECHNICAL PRESS SERVICE.

Advantages of Weak, Heavily-Filtered Radium Needles in Treating Malignant Tumors

MODERN developments in radium therapy are based on two facts: first, that radiation of great penetrating power and short wavelength has less necrotizing effect and a greater selectivity for radiosensitive cells than radiation of low penetration and long wavelength; and, second, that the selectivity of radiant energy for radiosensitive cells is increased, when the duration of the exposure is increased with a corresponding decrease in intensity.

As observed in clinical cases of carcinoma of the mouth, breast, rectum and prostate, the implantation of multiple, heavily-filtered radium needles of low strength—11 mm. in length, 1.5 mm. in diameter, with a wall thickness of 0.5 mm. and containing 0.6 Mg. of radium element—over long periods of time, increases the margin of safety for normal tissue and causes the rapid regression of malignant tumors of a relatively high grade of radioresistance, without sloughing,—DR. C. L. MARTIN, of Dallas, Tex., in J.A.M.A., Nov. 5, 1932.

Ultraviolet Rays in the Body

WHAT may develop into a powerful new agency for the treatment of cancer, leukemia and similar afflictions has been discovered at the University of Pennsylvania's Graduate School of Medicine. Dr. Ellice McDonald, director of the school, announced recently that when organic substances in solution are injected into the blood and then caused to fluoresce by x-rays from the outside, ultraviolet rays are given off that kill germs and cancer cells. The

discovery is the result of 4 years' work and is still so new that Dr. McDonald and his associate, Dr. A. S. Allen, ask for more time to appraise its possibilities.

Especially striking is the fact that the wave length of the rays generated within the body can be changed within limits. In other words, the rays can be generated that kill the particular type of cell or germ with which the physician has to deal.

That solids will fluoresce under x-rays has long been known. Common salt and certain dyes will glow under the x-rays. Fluorescence of solutions under x-rays, however, is apparently something new—at least within the body. When such solutions are introduced into the system and then subjected to the action of x-rays, the effect is much more marked than when x-rays are used alone, as in the customary treatment of cancer. Even if it should develop that cancer cannot be cured in this way, it is something to have vastly increased the power of x-rays and the gamma rays of radium in treating internal growths. (*New York Times*, August 28, 1932) through *Bull. Am. Soc. Control Cancer*, October, 1932.

Recent Abstracts

Diathermy of the Brain

In *Brit. J. Physic. Med.*, Mar., 1932, Dr. J. Kowarschik, of Vienna, reports that he has obtained good effects in cases of headaches, hypertonia, in uremic brain affections in kidney patients, etc., by high-frequency current diathermization of the brain.

Two methods of brain diathermy are possible: The transverse method, in which two small lead electrodes are fastened to the temples; the second method is by sending the current through the head in a sagittal direction. One electrode (4 by 12 cm.) is placed on the forehead above the eyebrows, the other, of the same size, on the backs of the head, the hair being wetted with soap and water. The current should be mild; from 0.2 to 0.3 amperes, with an application of from 15 to 20 minutes will suffice.

The author mentions the possibility of an increase in basal metabolism and an effect on the activity of the generative glands by this method, which is entirely free from danger and has hitherto been used far too little in therapeutics.

Value of Heliotherapy and Surgery in Tuberculosis of Bones and Joints

From their clinical experience of 117 cases of tuberculous spine, 27 of the hip and 11 of the knee joint, Drs. A. M. Lehman and D. C. Bartholomew, of the Medical Corps, U. S. Army, Denver, state in *J.A.M.A.*, Apr. 16, 1932, that heliotherapy has proved itself to be of the greatest value in the treatment of tuberculous spines and hips, but for some unknown reason is ineffective in involvement of the knee joint.

Bony ankylosis is the proper criterion of arrested disease in adults and probably in children.

Fusion operations are valuable adjuncts in the treatment and should be employed in well-chosen cases of tuberculous spine and in all cases of tuberculosis of the knee. The authors' results in tuberculous hips have been so pleasing that operative measures will be tried only in carefully-chosen cases, with the hope that the recovery time may be shortened.

The most frequent and fatal complication of tuberculous joints is sinus formation with secondary infection, and all treatment must be planned to avoid, if possible, the formation of sinuses.

The death rate falls to an almost negligible figure if sinuses are not present, and after they develop they become of more clinical importance than the original bony lesion.

Continuous Irradiation of the Entire Body

As reported in *Radiology*, June, 1932, theoretic considerations and practical observations led Dr. A. C. Heublein, of Hartford, Conn., to the conclusion that it is desirable to test the value of prolonged continuous irradiation of the entire body in certain types of neoplastic diseases.

At the Memorial Hospital, an automatic x-ray machine is in use in a special lead-lined ward in which four patients may be simultaneously and continuously irradiated. In addition, provision has been made for the administration to other patients of local intermittent treatments at a target-skin distance of 150 cm., making use of the same x-ray tube. This machine is dependable and economic in operation.

The cases selected for the long-distance irradiation method are well advanced, and many present widely disseminated lesions. This choice is made primarily to establish a tolerance dose for the entire body, and in the hope of observing some beneficial clinical manifestation, such as a stimulation of some defense mechanism against malignant disease.

The maximum dose which the entire body will tolerate has not yet been established. However, investigations to determine this dose are being carried on. At present, the author believes that 25 percent of a full erythema dose of 750 r measured in air, delivered at the rate of 1.26 r per hour, is a safe dose. Clinical observations and extensive special laboratory tests confirm this opinion.

To date, no pronounced beneficial clinical manifestations have become evident, although in some instances encouraging improvement has been noted. It is too early to say whether or not a favorable systemic effect has been, or can be, produced by this method.

With intermittent local treatment at 150 cm., definite regressions have been noted in the radiosensitive group of cases.

The number of cases in both groups is too small to permit any definite conclusions at this time, although it is believed that the evidence accumulated thus far fully warrants the continuation of the experiment with increasing dosage, within safe limits.

Treatment of Obesity by Physical Methods

In *Brit. J. Physical Med.*, Apr., 1932, Dr. F. H. Humphris, in discussing physical methods in the treatment of obesity, states:

The most successful treatment of obesity, in my hands, has been the late Prof. Bergonié's method of electro-rhythmic muscular contractions. Various currents have been tried and found wanting for this purpose; e.g., the direct, high-frequency, and sinusoidal. But Bergonié's apparatus remains the type *par excellence* of its kind. If its use be properly studied, and each patient treated as an individual to whom special attention must be paid, then success will follow its intelligent employment.

The apparatus, briefly, consists of a segmented metal chair and pairs of movable electrodes for the arms, legs and abdomen, all connected to a switch board, each electrode having a separate rheostat for control of the current. The current is supplied by an induction coil, and is interrupted by an electric metronome. For the patient's comfort, it is essential that the interrupter works with perfect regularity. It should produce a musical note, or pure tone, and there should be no visible sparking. This is a condition difficult to obtain, but indispensable for painless, energetic, muscular contractions.

The electrodes are held in place by sandbags on the lower limbs and abdomen. The pressure is of great advantage; it keeps the electrodes in good contact, in spite of the muscular contractions, and it gives the muscles more work to do when they contract. Some people can be laden with bags up to 200 lbs. without appreciable diminution in the electrically-stimulated movements. This great weight is easily moved by the contracting muscles without fatigue and without the least painful sensation. Were it not for the passage of the electric current, the weight would be difficult to support.

The treatment should never be tiring, but at first there may be some muscular stiffness. It is best to begin with 20 minutes, increasing by 5 minutes daily, until 45 minutes daily is reached.

It is superfluous to point out that patients undergoing the Bergonié treatment should be under continual medical supervision. In a patient in whom great metabolic changes are constantly taking place, it is obvious that the medical adviser should keep a daily watch—listening to the heart, examining the urine (especially for albumen and acetone), watching for and guarding against constipation, and in many other ways that will suggest themselves. With this careful supervision, no harm can possibly come, but only benefit ensue, from even a prolonged course of electrically-excited exercise.

The patient begins to lose weight from the first, and a feeling of alertness, lightness and general well-being replaces lethargy. The effects also have a permanent character, though the tendency, in the majority of cases, is for the weight gradually to return.

BOOKS

Year Book of Radiology—1932

THE 1932 YEAR BOOK OF RADIOLOGY. Diagnosis. *Edited by Charles A. Waters, M.D., Associate in Roentgenology, Johns Hopkins University; Assistant Visiting Roentgenologist, Johns Hopkins Hospital. Therapeutics. Edited by Ira I. Kaplan, B. Sc., M.D., Director, Division of Cancer, Department of Hospitals, City of New York; Visiting Radiation Therapist, Bellevue Hospital; etc.* Chicago: *The Year Book Publishers, Inc.*, 304 *South Dearborn Street*. 1932. *Price* $6.00.

The appearance of this new Year Book of Radiology, for which there is decided need, is a matter for congratulation by the English-speaking medical profession, as this specialty has now advanced to the position of an integral part of medical science and practice.

The year book contains in abstract form the essential parts of the most important articles appearing during the year in all the first-rate radiologic journals of Europe and America, besides those of value in nearly 100 other general medical journals. It is divided into two main parts—diagnostic and therapeutic—each supervised by a competent editor. The abstracts are collected and arranged under proper captions and editorial comments on their value are added when necessary.

The work is well done and the publishers are to be congratulated on the excellence of the book as a whole. It is particularly rich in reproductions of roentgenograms, which are quite essential in presenting an intelligent resumé of articles of this kind.

Radiologists—both diagnosticians and therapeutists—should hail the appearance of the year book with particular satisfaction. The abstracts are copious and detailed. The extensive English summaries of important contributions in such foreign journals as *Fortschritte a.d. Geb. d. Roentgenstrahlen, Strahlentherapie, Roentgenpraxis, Journal de Radiologie* and many others are alone worth many times the cost of the year book. From this point of view alone this volume should, in time, become a very valuable English encyclopedia of important foreign radiologic literature.

STOMATOLOGY

OFFICIAL ORGAN OF THE AMERICAN SOCIETY OF STOMATOLOGISTS

ASSOCIATE EDITOR: ALFRED J. ASGIS, Sc.B., M.A., D.D.S.

THE RELATION OF DENTISTRY TO MEDICINE

IN the past ten years I have many times discussed the relation of Dentistry to Medicine, and have long believed that the health of the mouth can not be separated from the health of the body. Dentistry is, in fact, a branch of medicine, and consequently the dental surgeon should be a graduate in medicine who has specialized in stomatology.

A law requiring a dentist to be a graduate in medicine could not, of course, be retroactive; therefore, the dental surgeons already licensed would be allowed to continue to practice stomatology (dentistry). However some method should be devised whereby such of the dental graduates as wished to take a postgraduate course, to better understand the human body, could do so and receive a certificate for such work.

The prevention of the loss of teeth, the prevention of dental infection and the early discovery of mouth infection represent the highest aims in dentistry. To prevent diseases that emanate from mouth infection, the prophylactic work should be done by a *dental graduate* and not by an inferiorly educated person.

I am delighted that American stomatologists have finally succeeded in obtaining recognition of the fact that stomatology (dentistry) is a part of general medicine and surgery. It is now the duty of the younger men in the dental profession to join, also, the associations of gastroenterologists, and in their meetings to demonstrate the important part dentistry plays in this branch of medicine.

Ultimately, the great importance of the whole subject of stomatology, both surgical and medical, must be recognized as a separate section in the scientific divisions of the American Medical Association.

OLIVER T. OSBORNE, M.A., M.D., F.A.C.P.
New Haven, Conn.

THE TOOTHBRUSH

It would be too great a counsel of perfection to expect present-day civilized man to make such dietetic adjustments as would entirely obviate the necessity for the use of the toothbrush, which is, at best, merely an unnatural method of trying to right the wrongs of unnatural feeding.

When civilized man learns to eat rationally, and when foods cease to be devitalized, then, and then only, will the toothbrush be relegated to its proper niche in the fight for oral righteousness. Until then, it must remain a weak, yet popular, weapon against dental disease.—DR. J. M. CAMPBELL, *in* New Zealand Dent. J., *Mar.*, 1932.

The Dentist as an Oral Surgeon*

By Captain Charles S. Butler, M.C., U. S. Navy
Commanding Officer, U. S. Naval Hospital, Brooklyn, N. Y.

SINCE maturing sufficiently to reflect upon the high and low adventures in medical history, I have never ceased to regret that the profession of dentistry has, in a way, drawn apart from that of medicine. This has occurred, perhaps, to a greater extent in the United States than elsewhere. If we define a physician as one legally authorized to treat diseases, then a dental surgeon is as much a physician as the ophthalmologist, the urologist or the psychiatrist.

In ancient and medieval times, those who dealt with the teeth were physicians. Herodotus (484 to 424 B. C.), in writing about the Egyptians of his own period and 3000 years before says (Book II): "The practice of medicine is so divided among them that each physician is a healer of one disease and no more. All the country is full of physicians, some of the eye, some of the *teeth,* some of what pertains to the belly and some of the hidden diseases."

We are told that Galen (131 to 204 A. D.) had a considerable knowledge of dentistry, that he thought that the teeth were true bones existing before birth, and to him is credited the belief that the upper canine teeth receive branches from the nerve which supplies the eye and hence should be called "eye-teeth."

Down through the ages we find this specialty taken as one of the divisions of medicine. Abulkasis (1013 to 1106 A. D.) was apparently the first to write on diseases of the mouth and dental arches. He was long credited as the first to illustrate dental instruments. Garrison, however, states that Sudhoff has discovered many medieval manuscripts antedating his time, which pictured them.

Anatomists, internists, microscopists (A. van Leeuwenhoek first described the tubular structure of the dentine, in 1676), physicists, chemists, surgeons and pathologists have been fascinated to contribute their bits to build the structure of modern dentistry. John Hunter (1728 to 1794), experimental surgeon and pathologist, developed the operation of transplanting teeth and amused himself by transplanting a human tooth to a cock's comb—an operation alluded to as of earlier date by Ambroise Pare (1509 to 1590). Hunter first referred to the possibility of syphilis being transferred by this procedure, in his "Treatise on Venereal Diseases," of 1786.

Some time ago I published an article on John Hunter, and a little later was requested by the British Dental Association to furnish a copy of it for the Association's library, as this library endeavored to secure all material in the literature having to do with Hunter. The dentists in Britain evidently claim Hunter as their own.

Professor E. C. Kirk, in his estimable article on Dentistry, in the Encyclopedia Britannica, describes the rift which separated medicine and dentistry in these words:

"Until well into the 19th century, apprenticeship afforded the only means of acquiring a knowledge of dentistry. The profits derived from the apprenticeship system fostered secrecy and quackery among many of the early practitioners, but the more liberal-minded and better educated of the craft developed an increasing opposition to these narrow methods.

"In 1837 a local association of dentists was formed in New York and, in 1840, a national association—the American Society of Dental Surgeons, the object of which was 'to advance the science of free communication and interchange of sentiments.'

"The first dental periodical in the world, *The American Journal of Dental Science,* was issued in June 1839, and, in November, 1840, was established the Baltimore College of Dental Surgery, the first college in the world for the systematic education of dentists. Thus, the year 1839-1840 marks the birth of the three factors essential to professional growth in dentistry. All this, combined with the refusal of the medical schools to furnish the desired facilities for dental instruction, placed dentistry, for the time being, upon a footing entirely separate from general medicine. Since then the curriculum of study perparatory to dental practice has been systematically increased, both as to its content and length, until, in all fundamental principles, it is practically equal to that required for the training of medical specialists and, in addition, includes the technical subjects peculiar to dentistry."

These factors, taken with the great benefits conferred upon the teaching of dentistry by the Carnegie Foundation's investigation and Report, of 1926, have operated to put the teaching and the pro-

*Read before the Oral Surgery Section, Second District Dental Society, Brooklyn, N. Y., November 17, 1932.

fession of dentistry upon the high plane of excellence they now occupy.

The mouth reflects or influences the whole range of human diseases. It is, therefore, unfortunate that those who practice this great specialty of medicine should not have a more comprehensive name for their specialty than is the case. At this hospital we have attempted to correct this discrepancy, by Hospital Order No. 100 which reads as follows:

Subject: Dental Service, Change in Designation of.

1.—With the approval of the Surgeon General of the United States Navy and effective November 17, 1932, the title "Dental Service," heretofore employed in designating the Dental Department, will be changed to the "Stomatological Service" and the chief of that service will be designated as the "Chief of the Stomatological Service."

2.—The term "Dental Service," where it may appear in Organization Tables, Hospital Orders, Hospital Memoranda and otherwhere, will be changed accordingly.

Flushing Ave. at Ryerson St.

NOTES AND ABSTRACTS

Pemphigus and the Dentist

Several diseases of the skin may involve the mouth, and frequently before the appearance of the cutaneous lesions.

In *Dental Outlook*, May, 1932, Dr. H. Fox, of New York, refers especially to pemphigus and lichen planus.

Pemphigus vulgaris occurs almost entirely in adults and seems to have a predilection for the Jewish race, especially those of foreign birth (Russia). Its cause is unknown. Although there are no pathognomonic clinical or laboratory signs of pemphigus, a progressive loss of weight and strength is very suggestive. Pemphigus vulgaris, in adults at least, is usually fatal in from three to eighteen months, the treatment being mostly palliative. An adult of either sex, particularly of the Jewish race, with a slowly increasing number of red, sore, eroded areas in the mouth associated with a decided loss of weight, is a possible sufferer from pemphigus. At this stage the diagnosis, however, could not be made with certainty.

BOOKS

Smith: Oral Spirochetes

ORAL SPIROCHETES AND RELATED ORGANISMS IN FUSO-SPIROCHETAL DISEASE. By *David T. Smith, A.B., M.D., Associate Professor of Medicine, Duke University, School of Medicine, Durham, N. C., Formerly Bacteriologist and Pathologist to the New York State Hospital for Incipient Tuberculosis, Ray Brook, N. Y. Baltimore: Williams & Wilkins Company.* 1932. *Price* $4.50.

In this monograph the author deals with the spirochetes, fusiform bacilli, vibrios and other organisms found in the mouth. While there is no evidence that the oral spirochetes alone can produce disease in man, they are probably the most important members in a symbiotic group of anaerobic organisms which is capable of initiating a severe and often fatal disease.

Of the 32 chapters making up the book, the first five deal with the general biologic and morphologic characters of the different organisms. The following chapters deal with the specific mouth infective diseases — Vincent's angina, gangrenous stomatitis, trench mouth, etc. Then follow the organic infections throughout the body, due to dissemination and extension of the mouth organisms, especially of the fuso-spirochetal type. There is a bibliography of over 800 references.

The lesions produced by this group of mouth organisms present general common characteristics—necrosis and destruction of tissue, pseudomembrane formation, and fetid odor. The treatment is fundamentally the same in all the various types of lesions—open drainage with free access of air, supplemented by local application of oxidizing agents and by local or general arsenic therapy to destroy the spirochetes.

The book is stated to be the most comprehensive work on oral spirochetes available in English. It should be valuable to physicians, stomatologists, clinicians, pathologists, bacteriologists and medical laboratory workers dealing with disease conditions due to fuso-spirochetal infections.

A LIVING FOR THE DOCTOR

HOW TO MAKE BOOKS AND JOURNALS PAY DIVIDENDS

MOST people, especially in these days, have to give some thought to any expenditures for things which are not actual necessities.

On the other hand, the economists keep reminding us that, during "hard times," the best opportunities for making most profitable investments present themselves.

The necessities for maintaining physical existence are: air, food (including water, vitamins and minerals); warmth (including clothing); and shelter. For most of us, these absorb the greater part of our income.

An investment is the expenditure of time, energy or money, in such a way that it will add regularly to one's income in the present or be worth more in the future than it is now, or both.

But, for the cultured person, especially a member of a profession, there are necessities other than those required to maintain life in the physical body. The mental and emotional, as well as the physical, natures require food and exercise. The physician, for example, if he would achieve any measure of success in his practice, must keep thoroughly abreast of the progress in his profession, by reading and *assimilating* one or more good medical journals regularly, and at least a few of the newer books, from time to time. If he does not do so, he is in danger of intellectual (and perhaps even of physical) starvation.

The purchase of medical journals and books is, therefore, both a necessity and an investment, for the progressive and ambitious physician. Here are some suggestions for making that investment pay large dividends.

In the first place, a journal which publishes adequate and unbiased book reviews can save the doctor many times its price every year by enabling him to buy only such books as he *really needs*. The cost of one medical book, which was purchased carelessly and proved of little or no value to that particular doctor, would pay for a year's subscription to almost any journal in the country—for several years, to most of them. *Read the book reviews regularly.*

The people who are making drugs and apparatus for the medical profession are spending millions of dollars each year, in research and experiments, and thousands in telling the doctors about what they have discovered, through the advertising pages of the journals. *Read the advertisements regularly,* and send for further information about and samples of the products in which you are interested, mentioning the place where you saw the announcement. Then *keep* and *file* the literature received and use the samples, keeping records of the results.

In order to have a place to deposit the intellectual dividends (which, in turn, if put to work, will produce financial returns), one must have some sort of a filing system which, in its simplest form (a fiber-board letter file with index guides, for reprints and literature, and a similar type of box for 4 x 6 cards, with a set of alphabetic guides and a couple of hundred of the blank cards), can be purchased for less than five dollars. As

the mass of material grows, the system can be expanded.

It is a measure of economy to keep the complete files of all first-class journals received and have them bound, with the indexes, at the end of each year. In this way they become valuable reference books in the library.

Meantime, one should plan one's time so as to go through every copy of every journal one receives *before the next copy arrives*, noting, in the table of contents, all articles, abstracts and other material which is of especial personal interest, reading as much as is practicable, and entering important practical points, *with references*, on the 4 x 6 file cards, with a key-word (such as the name of a disease, a test or a drug) above the red line on the card, and filing the card, under the proper letter, in the box, where it can be readily found.

If one does not care to keep certain journals for binding, one can cut out abstracts or short notes which are of special interest and paste them on properly indexed cards. Longer articles may be filed in the letter file, or one can write to the authors for reprints, to be filed in the same manner. *These files should be used every day*, in seeking specific or general information.

All medical books have indexes, but those of a general cultural nature (of which every physician should be reading at least one each month) frequently do not.

In reading or referring to a textbook, it is well to jot down, on the margins, one's personal comments, based on experience, upon the adjacent text. This will make the book more vital. If one encounters information on some subject to which one is likely to refer frequently, the reference should be noted on a file card, so that, when it is wanted again, it will not be necessary to search through half a dozen volumes to find it.

When reading a book, especially one which has no index, significant paragraphs or sentences, which one desires to remember, should be underlined in color (red, blue or green) and, at the first opportunity, given an indexable key-word and copied on a file card, with a reference to the name of the book, the author and the page. If the key-words and page numbers are entered on one of the blank leaves at the back of the book, one's secretary can do the copying and filing in her odd minutes.

The person who carries out a plan like this will, within a few months, have at his disposal a unique and constantly growing collection of information, suited to his particular needs, which, if used regularly, will vastly increase his ability and earning power, as a physician, and his general stature and sense of importance as a human being.

The physician who looks upon books and journals as luxuries, to be eliminated when times are tough, has the wrong slant on the matter. The man who purchases these things and does not use them is extravagant and wasteful. The doctor who buys professional literature as a necessity, and uses it as an investment, paying large dividends, is wise and will achieve financial and professional success.

G. B. L.

Specialists in Medicine

It is my personal belief that the multiplication of specialists has been a potent cause of breaking down the bonds of confidential responsibility between patient and physician, and whatever truth there may be in alleged instances of medical services at exorbitant cost, is safely chargeable to pseudo-specialists of low character or low scientific attainments, or both.—Dr. N. B. Van Etten, *of New York, in* New York St. J. M., *June* 1, 1932.

NOTES AND ABSTRACTS

SOCIAL INSURANCE CANNOT BE ABOLISHED WHEN ONCE ESTABLISHED*

THE worst feature of social insurance is the fact that, when this parasite once gets its suckers well fastened into the vitals of a nation, nothing short of either national bankruptcy, a dictatorship or a revolution will be able to loosen its hold.

Germany, which has had social insurance on its statute books the longest, has for a considerable time been on the verge of bankruptcy. While other facts are operative, we believe that the billion dollars which social insurance costs the nation every year is one of the chief reasons why Germany is unable to make a satisfactory return to normality.

England is not much better off. The chief reason for England's present difficulties is the terrific burden of taxation which she has to carry. One writer says. "A complete understanding of the problems confronting England at the present time involves going back to 1909, when we had just adopted old age pensions and destroyed the foundations of thrift."

In 1911 England introduced national insurance, when three percent of its workers were unemployed. After twenty years of operation of the act, seventeen percent of her workers are out of work. As a partial explanation for this condition, let us cite just one example from among scores and hundreds that could be given. A manufacturer found that his orders were only sufficient to give work to all his employees four days a week, so he called his workers together and told them the facts. The workers, however, insisted that they would work only three days a week, in order that they might draw the dole for the other three days. An English writer commenting on this says: "It is a great mistake to worry about the much discussed abuses of the system. It is the system which is fundamentally wrong and abuse is inseparable from it."

To get an idea of the tax burden which England is carrying, we need but cite facts. In that country all incomes of $750 per annum are taxed twenty-five percent. Higher incomes carry an additional surtax. Increased taxes have increased the production-cost of practically all articles of manufacture and, as a consequence, have actually increased unemployment, because English industry, carrying this extra burden, has not been able to compete with other countries in the world markets. In spite of these burdensome taxes and in spite of the fact that living expenses had gone down eleven and one-half percent, the recent labor government refused to cut the sick benefits ten percent, and put the nation to the expense and turmoil of a national election practically on this issue alone.

The countries just cited are not the only ones encountering similar difficulties. A recent newspaper article contained the statement that there are more than 150 federal boards and commissions in Washington, each with three or more members drawing salaries and each with a bevy of clerks, most of whom are *merely* drawing salaries. Many of these were created during the World War. When a few farsighted individuals remonstrated against the appointment of so many boards and commissions, they were assured that they would all be abolished at the end of hostilities. It is now more than fourteen years since the signing of the Armistice, but not one board has as yet been abolished.

Another illustration is the franking privilege to country newspapers. This privilege was extended to them when it was deemed desirable to disseminate news and information to rural inhabitants, particularly to detached settlements. It was a wise and legitimate enactment at the time but now it is just a plain nuisance, and yet no congressman would dare to suggest its abolition. It is costing the taxpayers and consumers a great deal of money and serves no useful purpose. A town of 10,000, or even fewer, inhabitants usually has two and sometimes three local

*This is the ninth of a series of articles on social insurance.—ED.

papers, all enjoying this privilege. The local merchants are compelled to advertise in all of them, the expense of which must of necessity be passed on to the consumers. Incidentally, this favors the mail order houses, to the detriment of the local merchant.

There are many reasons why it is almost impossible to repeal the laws governing such practices. One reason is that executives and legislators do not want them repealed, because that would reduce the power which they derive through political patronage. The more patronage the individual in office has at his disposal, the more difficult it is to dislodge him. Even today it is very difficult to defeat a public office holder with large political patronage, no matter how inefficient he may be, except by another who either already has large political patronage or who promises jobs to his supporters, irrespective of their qualifications. Thus, in many elections, the voter is simply left to choose between two undesirable candidates.

Already the number of payrollers has become so large and so politically active and influential that they wield power in both political parties. If we then add compulsory health insurance, we will add further thousands to the lists of our civil employees. Those who are not in government employ will be powerless to control government and their only function will be to pay the taxes which others impose upon them. Instead of increasing the number of government officials and employees, the ideal to be constantly kept in mind and striven for in this country is to permit the private citizen to perform all those functions that he can best perform and that make for independence, self-reliance, and strength of character, and to have the government do only those things which the individual cannot do satisfactorily. I maintain that centralization in government and paternalism have already gone much too far, and that social insurance would simply be another step in the wrong direction.

Another reason why it will be difficult to repeal such laws is the fact that men in the different services of the government do not dare to expose its faults, for fear of being accused of disloyalty. Reports must be couched in the most mild and ineffective language possible, and then they must not be released to the public, but allowed to die as still-births in the departments. We all know what happened to General Mitchell, who dared to disregard these rules. Major-General Robert Alexander also tells, in the introduction to his "Memoirs of the World War," just how this worked in at least one other instance.

In most countries which have social insurance, such laws were first suggested and urged by welfarers, uplifters and visionaries, who unwittingly played into the hands of practical politicians. Even now, few seem to realize that bureaucracy in a republic may become just as unreasonable, oppressive and ruthless as a despotism.

It will be interesting to see whether we shall be able to profit by the experience of others or whether, as a nation, we belong to that class of human beings who can learn only by dire personal experience or from national disaster.

EDWARD H. OCHSNER, M.D.,
Chicago, Ill.

The Doctor and the Law

DO the Federal Laws really handicap the doctor?

The Federal laws *nullify the laws of 47 states of the Union* that permit doctors to render birth control service as a necessary part of their duty to humanity.

Section 245 of the U. S. Penal Code prohibits the importation of information or supplies relative to the prevention of conception. *There are no exemptions.*

Section 245 of the U. S. Penal Code also prohibits sending or receiving, by or from an express company or other common carrier, information or supplies pertaining to the prevention of conception. *There are no exemptions.*

Section 211 of the U. S. Penal Code prohibits sending or receiving, by or from the U. S. Mails, information or supplies pertaining to the prevention of conception. *There are no exemptions.*

Section 312 of the U. S. Penal Code prohibits *manufacturing, compounding, prescribing* or *having in posession*; or giving information pertaining to the prevention of conception, *or information where such information may be obtained. There are no exemptions.*

Violations of Sections 245 and 211 are subject to $5,000 fines, or not more than five years imprisonment, or both.

Violations of Sections 312 are subject to $2,000 fines, or not more than five years imprisonment, or both. *There are no exemptions.*

These sections prohibit *medical schools* teaching contraceptive technic.

Private and endowed hospitals cannot establish birth control clinics without violating the laws and risking the *revoking* of their *charters* and *endowments.* Public, state and government hospitals must not violate the law.

THE FEDERAL LAWS DO HANDICAP THE DOCTOR, AND IMPOSE AN APPALLING DEATH PENALTY UPON THOUSANDS OF MOTHERS.

These laws should be changed so as not to conflict with the laws of the various states. Help us change them by endorsing the bill S-4436. Write to your congressmen TODAY!

MARGARET SANGER,
National Chairman, Committee
on Federal Legislation for
Birth Control.
Washington, D. C.

Little Things Make Success or Failure*

THE medical student of today hears plenty about the diagnosis and treatment of disease. He hears far too little about sick people. The success or failure of the individual physician (and thus of the entire medical profession!) depends fundamentally upon his management of these sick people, their relatives and friends.

Most graduates in medicine today are eminently fitted to diagnose and treat disease. All have presumably digested the Code of Ethics. Few are told how to outfit an office, how to meet patients, how to keep accounts, how to send out bills, how to handle the matter of prognosis, how to pay meticulous attention to the many small niceties that impress patients and are actually part of the treatment.

I know a young medical man whose mother is the widow of a clergyman. She insisted on his taking a two-year, rather than a one-year, internship. This meant further financial sacrifice on her part. However, she said, she would feel amply repaid if her doctor-son, when he started to practice, would promise to listen attentively to every patient's complete story and strip him for examination.

She believed implicitly in the wisdom of those two procedures, as a means of setting him apart and advancing his reputation for thoroughness.

What an appreciation of the psychology of the sick person that mother had!

It is not the blatant facts of the medical rascal that are undermining the confidence of the public. The rascals will be with us always, under any regime. It is the thoughtless, trivial or petty missteps in the management of the patient, by the unwarned or unthinking medical man, which are gnawing away at public trust.

HILTON S. READ, M.D.

*Adapted from *Med. Economics,* Dec., 1932.

High Finance*

TEN men who were financiers chipped in ten dollars each and bought a fine cow that gave ten gallons of milk every day.

The milk was divided at night and each man received one gallon as his share.

Soon the neighbors far and near heard about the wonderful cow and said to one another: "Think of getting a whole gallon of milk every day! What a wonderful return on a ten-dollar investment! I wish I had a share in her!"

When this talk was repeated to the ten men, they held a meeting and one of them said: "Let us give these people what they want. Our shares in the cow cost us ten dollars each, and we can sell other shares at the same price."

So they went to a printer and obtained one thousand sheets of paper bearing the legend: "One share in the cow." Then they sold 500 of these shares at $10 each, which brought them $5,000, and divided the other 500 among themselves as their reward for being smart.

Each man of the ten now had 51 shares, whereas in the beginning each had but one.

But one of the ten began to worry.

"Look here," he said, "every fellow who bought a share in this cow will expect a gallon of milk tonight, and the cow gives only ten gallons. When the milk is divided into one thousand and ten parts these new shareholders won't get a spoonful. Shares will drop to nothing. We'd better unload while we can."

So the ten men went out on the street to find investors, and each of them sold the fifty shares that had been awarded to him,

*Reprinted from *Fountain Inn Tribune,* Nov. 3, 1932.

and thus they obtained a second $5000 to divide among them.

But now night was drawing near and again one of the ten began to worry.

"There will be a row at milking time," said he. "Hasten abroad and persuade each of the shareholders to sign a proxy, which is a joker authorizing you to cast as you think best the vote to which his share entitles him. Then return with the proxies and we shall do some voting."

At twilight the men met at the barn, and in their hands were 1000 signed proxies to represent the absent shareholders. And the ten were entitled to vote in their own right, for each still held his original share.

"Now," said the one who did the talking, "we must reorganize. This company needs a president, a treasurer and eight vice presidents. That gives each of us a job. And since there are ten of us and the cow gives ten gallons, it is moved and seconded that each of us receive a salary of one gallon of milk per day. All in favor say 'Aye.' "

The motion carried without a dissenting vote.

And then they milked the cow.

ROBERT QUILLEN,

Fountain Inn, S. C.

Economics of the Management of Syphilis

Writing on the economic aspects of the management of syphilis in *Arch. Dermat. & Syphil.*, Mar., 1932, Dr. A. Keidel, of Baltimore, based on a study of the records of the syphilis clinic of the Johns Hopkins Hospital and other data, expresses the opinion that the cost of the diagnosis and treatment of syphilis is a major factor in our inadequate control of the infection. The Wassermann test often is not employed in diagnosis, because it costs $5, whereas it can be done accurately for as little as 29 cents.

In most American cities, treatment facilities for syphilis are available only in free or part-pay clinics, at a representative one of which the cost of the treatment for early syphilis is $78; or, in private practice, in which the estimated minimum cost of equivalent treatment is $305. The average cost of private treatment for the same type of patient is more than $600. Many patients of the moderate-income class are inadequately treated because they cannot afford to complete the necessary treatment in private hands, and will not accept the alternative of free or part-pay clinics.

The steps suggested by the author in the solution of this problem are: (1) simplification of exising methods of treatment; (2) the choice of the simpler and less expensive method of treatment, provided this does not entail a sacrifice of therapeutic efficiency; (3) the realization by the physician who undertakes the treatment of a syphilitic patient that he must see that treatment through to completion by one or another means: (4) the establishment of pay clinics in centers with a large population.

BOOKS

Costs of Medical Care

UNIVERSITY STUDENT HEALTH SERVICES; A Study of Organization, Services Rendered, and Costs in Cornell University, Yale University, the University of Michigan, the University of Minnesota, the University of California, the Oregon State Agricultural College. *By Don M. Griswold, M.D., Dr. P. H. and Hazel I. Spicer. Chicago: University of Chicago Press.* 1932. $.90.

A COMMUNITY MEDICAL SERVICE ORGANIZED UNDER INDUSTRIAL AUSPICES IN ROANOKE RAPIDS NORTH CAROLINA. *By I. S. Falk, Ph.D., Don M. Griswold, M.D., Dr. P. H. and Hazel I. Spicer. With Reports on Certain Phases of the Organizations by David Riesman, M.D., Sc.D. and George P. Muller, M.D., Chicago: University of Chicago Press,* 1932. *Price* $.90.

Publication No. 19 of the Committee on the Costs of Medical Care deals with the specially organized facilities for medical care and supervision of a particular group; namely, university students. The facts revealed by this study in six important universities have significance in indicating the important advantages to be gained by organization and by periodic payments of a comparatively low annual fee for the essential elements in medical care.

Publication No. 20 is an example of the economic working of a community-organized medical service on an industrial basis. Five large industrial concerns have cooperated in the development of this service in the city of Roanoke Rapids, a town of about 9,000 population, in North Carolina.

This study also offers a means of contrasting two groups: those who make fixed, periodic payments and those who use the conventional fee-for-service type of medical care.

THE · SEMINAR

[NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted. Discussions should reach this office not later than the 1st of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, North Chicago, Ill.]

PROBLEM NO. 1 (SURGICAL)
Submitted by Dr. Max Thorek, Chicago
(SEE CLIN. MED. & SURG., Jan., 1933, p. 56)

Recapitulation: A woman of 45 years complained of pain in the abdomen and left lumbar region, associated with urination; constipation; and symptoms of the climacteric, all of which were of some months' duration.

She entered the hospital, on the fourth day of an acute attack, with severe pain in the left lumbar region, radiating to the abdomen and left iliac region, nausea and vomiting. She had taken cathartics and enemas without effect.

Examination showed diffuse râles over both lungs; no fever; heart normal; abdomen distended and tender; tenderness in left lumbar region; large, smooth, resistant, immovable, tender mass in the cul-de-sac of Douglas, obscuring the uterus and pressing on the rectum. Her *urine* contained albumin (1 plus), pus cells and a few erythrocytes. The differential leukocyte count was normal and the Wassermann reaction negative.

Requirements: Suggest diagnosis and treatment.

DISCUSSION BY DR. T. A. LOWE, ST. PAUL, MINN.

After careful x-ray examination of the spine and bowel, and also cystoscopic studies and pyelograms, I should have in mind, to prove or rule out:

1.—Malignant disease, with metastasis.
2.—Tuberculosis, with "cold abscess."
3.—Hydronephrosis.
4.—Retroperitoneal tumor, benign or malignant.
5.—Pelvic tumor; principally ovarian cyst.

The treatment of malignant disease would be by surgery and irradiation. If tuberculosis is present, the treatment would be hygienic and supportive. In hydronephrosis, retroperitoneal tumor or pelvic tumor, the treatment would be surgical.

DISCUSSION BY DR. E. O. HOUDA, TACOMA, WASH.

In the absence of a more comprehensive history, the diagnostic problem in this case appears to be intimately related to the mass in the pelvis. Since the smooth and tender mass in the cul-de-sac cannot be displaced, it may be impacted or bound down by adhesions of some duration. The bladder symptoms, without significant evidences in the urine, are probably due to the close proximity of the mass and the latter's inflammatory reactions of a mild sort, as evidenced by the absence of leukocytic reaction in the blood.

With the probable onset of the menopause, particularly when associated with chronic disease in the pelvis, the irregular menses are incidental and quite the rule. However, if these had been characterized by a clear-cut difference between them and those previous to the onset of complaints, particularly if preceded by a history of sterility—there being no mention of pregnancies or abortions nor of specific infections in the history—the question of an early and spontaneously aborted tubal pregnancy should be considered a likely possibility; in which event some small amount of colostrum might have been expressed from the breasts, during the early weeks—a diagnostic feature of interrupted tubal pregnancy that is not generally recognized, and particularly diagnostic of this condition in a nullipara.

With the normal blood picture taken as criterion, the pelvic mass is not essentially an inflammatory nature, but a neoplastic growth, such as a fibroid, dermoid or ovarian cyst that is adherent to the bladder and large enough to press on the rectum to the degree of causing some obstruction, with distention of the abdomen. A negative occult blood test of the stools, while on a meat-free diet, should rule out the question of cancer of the sigmoid.

Preliminary to abdominal section (since the mass is undoubtedly of a surgical nature), a diagnostic puncture of the cul-de-sac, and sounding of the uterine cavity, should throw some light upon the physical character of this mass. Should puncture of this sac reveal pus, treatment is obvious —drainage through an incised wound; or, if a tarry or bloody fluid is aspirated, an old ruptured tubal pregnancy will necessitate section, as would be the case if a clear serous fluid was obtained from an ovarian cyst or the milky fluid from a dermoid cyst. However, since seeing is better than two feels or ten guesses, an otherwise harmless section will elucidate a true story that may be quite contrary to the best preoperative diagnosis, particularly when the latter is based upon physical evidences and a symptom group that is not comprehensive enough to be clear.

Discussion By Dr. M. Gleason, Mendota, Ill.

Without additional data on this case, an accurate diagnosis is impossible. Nothing was said about the condition of the cervix uteri, nor whether the patient had recently lost weight. We should have a full report of the blood-picture. In a woman of this age, a diagnostic curettage should be performed, and the tissue removed subjected to microscopic examination for the presence of malignant changes.

I should advise a cystoscopic examination, with catheterization of the left ureter, which, in my opinion, may be found partially or wholly constricted by the pelvic mass, resulting in pressure hydronephrosis of the left kidney, which easily might produce the pains described.

It is my opinion that the mass in this woman's pelvis, which is probably a tumor of the left ovary, is the cause of her trouble, and that the tumor has pushed the uterus to the right. It may be an infected left-ovarian cyst, adherent to the cul-de-sac. I have operated upon two such cases in the past year, in which the cyst developed in the broad ligament and displaced the uterus.

The treatment would depend upon the microscopic findings in the uterine scrapings. If the condition were malignant, I should treat it by irradiation with deep x-rays and radium; if benign, by laparotomy and removal of the tumor mass.

Discussion By Dr. Sigmund Tashma, St. Louis, Mo.

The history preceding the acute episode suggests a renal condition—a kidney or ureteral stone. The picture, however, which the patient presented upon entering the hospital is quite different from that which we should expect from an acute attack of renal or ureteral colic.

The acute illness four days before her admission to the hospital, consisting of excrutiating pain in the left lumbar region, radiating to the abdomen and down to the left iliac region, with nausea and vomiting, falls in line with the classical textbook descriptions of the above-mentioned conditions. The failure of bowel action, despite the use of cathartics and several enemas, could be due to reflex irritation, a condition which is occasionally seen in cases of renal colic. I have recently seen it in a case of ureteral stone, in which there was no bowel action for seven days and in which a complete x-ray study failed to reveal any gastrointestinal pathosis.

Despite this well-defined picture of a urologic condition, the finding of a markedly distended abdomen, with generalized tenderness and the presence of a large, smooth, resistant mass in the cul-de-sac of Douglas, which could not be displaced upward nor laterally, forces us immediately to ignore the kidney and ureter, for the time being, and focus our attention upon the abdomen, for it is here that the fate of the patient was to be decided. There was no mention in the history of any urologic studies of this case, hence we may assume that such study was either negative or was not done because of the urgency of the case.

The most important condition which suggests itself is acute diverticulitis with acute or chronic suppuration, forming a mass adherent to the surrounding structures. It is possible that the patient might have had a mild inflammation in the diverticula two years ago, which was responsible for the frequent cramp-like pains in the left lumbar region during that period of time. The reason for projection of the pain may be the more or less intimate relation with the

ureter. The patient's age is also favorable to the idea of diverticulitis, which is more common in the second half of life than in younger persons. Again, there is no reason why both the renal and abdominal conditions could not have co-existed, the diverticulitis being the precipitating event which brought her to the hospital.

The disconcerting feature in the diagnosis is the differential leukocyte count, which certainly should not be normal in the presence of an infective process. Also it appears strange that, during the patient's previous stay in a hospital, no evidence of renal, ureteral or gastrointestinal pathosis (diverticula) was found.

Another thing which should be ruled out is a twisted ovarian pedicle. The history should, at least, have contained some hint as to previous pelvic discomfort, enlargement of the abdomen, etc.

I think that we can safely rule out malignant disease of the lower colon, by the absence of systemic and local symptoms, although the local symptoms may frequently be entirely wanting until the condition is in a late stage of development.

The treatment of acute diverticulitis with the above symptoms and findings is, of course, surgical. Although the case lacks certain features which make the diagnosis absolutely certain, yet I should not hesitate to operate on such a patient, with the diagnosis of acute diverticulitis foremost in my mind.

SOLUTION BY DR. MAX THOREK, CHICAGO

Some discussants of this problem have pointed out that a more complete history would aid in arriving at a correct diagnosis in this case. While this is true, yet I believe that the subjective and objective findings, as outlined, are sufficient to make a tentative diagnosis and formulate a differential diagnosis, and I feel that it is always desirable to make a probable diagnosis from the information at hand, if possible.

It must be remembered that this patient was in a hospital for several weeks prior to coming under our care. There, after painstaking study, embodying gastrointestinal and other examinations, a final diagnosis of "nervous stomach" was made.

Dr. Lowe has summed up the situation from the history presented and has given a succinct outline of the differential diagnosis to be considered, mentioning the condition which proved to be responsible for the trouble. Had Dr. Houda read the history with care and had he endeavored to correlate the left lumbar pain, radiating to the abdomen and down to the left iliac region, with the presence of some red blood corpuscles in the urine, his conclusions might have assumed a different aspect.

It would hardly be advisable to do a diagnostic curettage, as suggested by Dr. Gleason. However, his counsel to catheterize the left ureter and his foresight incriminating the left kidney, by reason of compression, is sound judgment and proved by subsequent events to be correct. The statement by Dr. Tashma: "The history preceding the acute episode suggests a renal condition—a kidney or ureteral stone," is correct. However, in the next sentence, Tashma states, "the picture, however, which the patient presented upon entering the hospital is quite different from that which we should expect from an acute attack of renal or ureteral colic." This seems incongruous, for the symptoms here strongly suggested renal or ureteral involvement. Further on, a very important factor is pointed out by Dr. Tashma; that is, that the reflex inhibition of bowel action is often encountered in renal and ureteral pathoses. All of us have frequently encountered such instances.

Ureteral catheterization, combined with functional tests, was done in this case, the report of which follows:

Cystoscopic examination: Mass projecing into the floor of the bladder and causing its elevation; mucosa normal; both ureteric orifices visualized and normal in appearance.

Function test. Indigocarmin appears on the *left side* in 4 minutes; well concentrated in 6. *Right side*: Dye appeared in 4 minutes.

Pyelogram (retrograde): A large calyx in the *right kidney* is dilated. The small calices are not visualized. The x-rays show irregularity of outline, which is probably the result of obstruction. On the left side, the inferior and middle large calices are dilated and the upper minor calices are not well filled, but apparently there is some increase in the size of the larger calices. *The diameters of both ureters are increased.*

X-ray diagnosis: Probable bilateral hydroureter and hydronephrosis, probably due to mass in pelvis.

Rectal examination substantiated the presence of a smooth tumor, which extended laterally in both directions, was tense, resistant to the touch, non-fluctuant and pro-

jected upward toward the true pelvis and downward to the vault of the vagina. It could not be displaced from the pelvis without causing excruciating pains.

Celiotomy. Median incision disclosed a small quantity of serous fluid in the abdominal cavity. A large ovarian tumor was found wedged into the pelvis and its pedicle twisted a number of times upon its axis. It was removed. The ureter on the left side, at the brim of the pelvis, was about twice its normal size.

The patient made an uneventful recovery. Blood disappeared from the urine and the patient became symptom-free and left the hospital in excellent condition.

My preoperative diagnosis and that of my associates was: Fibromyoma of the uterus, compressing the ureter on the left side and causing beginning hydronephrosis. The diagnosis, as far as interference with kidney function was concerned, was correct, but we erred regarding the type of tumor. It was not a fibromyoma, but an ovarian cystoma.

The lesson in this case is to have a well trained urologist at hand to ascertain, in such cases, the condition of the genito-urinary apparatus. Of course, in the absence of a urologic clinical examination, the presence of a tumor would, *ipso facto,* demand surgical exploration.

Another point to be remembered is that the former attendants in the case had centered all their attention on the gastric manifestations which, in my opinion, were due to the impaired renal function (reflex) or may have been coincidental.

Naturally, the man in charge of the case has the advantage over the individual who has to make the diagnosis from a description of the factors. Errors in diagnosis are bound to occur.

Not long ago I reported, in these columns, a case where six or seven physicians, including myself, diagnosed a condition as one of typical acute appendicitis. It proved to be a case of torsion of the omentum, with a normal appendix. Since I made this error, I have kept the possibility of occurrence of torsion of the omentum in mind. In two other cases, where I diagnosed strangulated hernia, I found that I was dealing with torsion of the spermatic cord. In the third case I remembered such a possibility and made a correct diagnosis. By committing errors and taking part in free discussions such as these, we sharpen our diagnostic acumen and keep in mind pitfalls which beset the road of every man dealing with surgical problems.

Problem No. 3 (Urologic)
Presented By Dr. Eldon L. Carlson, Madrid, Ia.

The patient is a male (auto mechanic), of Dutch extraction; 30 years old; height, 5 feet 11 inches; weight, 158 pounds.

Family History: His mother and father are both living, and both suffer from "chronic bronchitis"; one sister died, at 28 years, from multiple pulmonary abscesses; one living sister shows a low basal metabolic rate and hypoadrenia.

Personal History: The patient is married, his wife is robust and they have one healthy child, three years old. He had measles and chicken pox in childhood, but was otherwise fairly healthy; inguinal herniorrhaphy at 18 years.

Physical Examination (Dec. 8, 1932): The teeth are in fair condition (one or two cavities need attention); lungs, normal on auscultation (not roentgenographed); tonsils, normal; hemoglobin, 80 percent; blood pressure, 132/68; temperature, 98.6° F.; pulse, 80; respiration, 18.

Present Illness: He comes complaining of gross hematuria, with many clots and dull pain over the right kidney; some vesical irritability, with pain radiating, at times, to the testicles and penis; occasional attacks of "renal colic," with sweating, pallor and prostration; dyspeptic symptoms (belching, flatulence and constipation); moderate, dry, unproductive cough.

On June 27, 1930, a roentgenogram showed a calculus in the right ureter, half way between the kidney and bladder. I applied medical diathermy several times in one day, and the stone passed into the bladder.

In September, 1930, I removed a rough, jagged, tan-colored stone, the size of a large pea, from the patient's penis. No more macroscopic stones have passed since then, but at intervals of from four to six weeks. he has had attacks of marked hematuria, which have usually subsided in from three to five days. In one attack, cystitis developed, but was cleared up by intravesical irrigations and the use of urinary antiseptics.

A roentgenogram, made in March, 1932, showed nothing abnormal in the lower abdomen and pelvis.

Requirement: Suggest further diagnostic procedures; probable diagnosis, on the basis of the history now available; and treatment.

CLINICAL · NOTES
AND
PRACTICAL · SUGGESTIONS

An Excess of Physicians

IT seems that we must call upon the Malthusian doctrine to begin to operate. In common with other trades and professions, we now learn that there is an excess of doctors in the country, and, sad to relate, that this excess is rapidly increasing.

There are now, in Canada and the United States, 156,000 practicing physicians. About 2,500 doctors in this country die annually, but this loss is made up, almost twice over, by the annual influx of young medical graduates. Dean William G. Rappleye, of the Columbia University School of Medicine, in his annual report states that the ratio of physicians per thousand of population in this country is double that in France and Germany and three times that in Sweden.

At first glance the problem seems appalling. What is going to happen to the medical profession if this keeps on? Will the standard of living of the medical man be pushed down far below that which it has been in the past? Will the high type of student, which has been flocking to the medical colleges in the past be lowered because of the lessened oportunities for distinguished success in his chosen profession? In other words, is there an ebb tide in medical affairs in the country, which is entirely in keeping with the period of national depression?

There are some ameliorating factors, however, which should be considered. Not only is the number of physicians in the country increasing, but there is also a notable increase in the total population of the country. Which is growing most rapidly? Is the proportion about holding its own, or are the doctors really increasing in number out of proportion to the populational increase? What was the ratio fifty years ago, as compared with the present?

Again, are we properly safeguarding the medical graduates here, or are we allowing a large influx of medical graduates from Germany, Russia and other countries? If we are, it should not be difficult to remedy this matter and materially lower the ratio of medical men to population.

Moreover, are we securing a normal distribution of the doctors over the land? We know of many towns of fairly considerable population which have no doctors at all; while cities and larger towns are flooded with young physicians who, coming from the rural districts, have succumbed to the lure of the "great white way" and have lost their love for the quieter districts of the land. Some states, even, are subsidizing doctors in order to induce them to settle within their confines, because of a state lack of medical men.

The attractions of city life cannot be denied. The social and recreational advantages are vastly superior to those in smaller communities. The opportunities of coming in contact with men of affairs, and thereby enhancing the chances of larger fees, must be admitted. But the greater competition which necessarily accompanies increase in numbers will largely balance these advantages. The problem then becomes a matter of personality. Who is the

better "mixer"? For to him will the larger profits fall. Also, ability will tell in the long run, and the tide of business will gravitate to the best men, while others must be content with smaller incomes.

It is an interesting study and one worth the consideration of the thinking portion of the profession. Should we endeavor to limit the number of medical students by raising the standard of premedical education and the annual fees of the medical course? If we do this, we will be trending toward the undesirable goal of making it a rich man's profession. This would eliminate the very worthy young men who, having the brains, have not the purse. What incalculable loss to the medical profession would result from this course! Just think of the great medical names of the past which would have been lost had such a cold, mercenary arrangement been in vogue!

The problem is a difficult one, but most intensely interesting. We are optimistic in this as in all other things, and we believe a satisfactory solution will be forthcoming in good times. With the poet we must "learn to labor and to wait."

W. A. N. DORLAND, M.D.,

Chicago, Ill.

In these hard times, it is extremely difficult to part with three dollars, but I have weighed your magazine in the balance and decided to pay you first, because several real suggestions from your pages have put money in the old till.—O.E.M., Ill.

Good Food for Little Money

THE less money a family or a community has to spend, the more necessary it is to spend that money to the best advantage.

Study the following and help to save the children from future suffering by vigorously emphasizing the need of foods that will protect health:

Milk: 1 quart per child per day if possible; at least a pint. A tall can of evaporated milk, with an equal amount of water added, is as good for children as one quart of pasteurized milk. Use it in soups, cocoa, desserts and to drink.

Vegetables and Fruit: Potatoes and one or more of these daily: carrots, turnips, beets, onions, cabbage, spinach, lettuce, escarole, peas, beans or other vegetables; oranges, apples, bananas or other fruit. A raw vegetable, such as chopped cabbage or grated carrot, at least 3 or 4 times a week. Oranges or tomatoes every day if possible. Canned vegetables may be used in place of fresh vegetables when cheaper.

Bread and Cereals: Bread and cereals, one or both at every meal. Dark or whole grain bread and cereal are best for growth; use at least once daily.

Eggs, Meat, Fish, Cheese, Dried Beans, Peas and Lentils: One or more of these foods daily if possible. An egg at least every other day, but never more than one egg daily. Brown eggs and white eggs are equally good. Use meat never more than once daily. Cottage and cream cheese may be given to young children.

Fats and Sweets: Enough fat to make food palatable, but avoid large amounts. Fried foods should not be given to children. Use sugar only in cooked foods.

Milk, eggs, vegetables, whole grain bread and whole grain cereals provide maximum food value at a minimum cost. Tomatoes, oranges and other citrus fruit have such valuable qualities that they should be provided at least three or four times weekly.

Children must have proper food during their growing years. The choice of food must not be left to chance. To satisfy hunger is not enough. Food must build up sound bodies, vigorous health and strength in order to develop resistance to disease. If children do not get essentials for normal growth and development at this time, there is a grave danger that they will suffer physically in later years.

LUCY H. GILLETT,

New York City.

Health Education and the Doctor*

THIS is a story of a failure of the medical profession to fill the spaces between the practitioner of scientific medicine, and the layman who needs his services; of the great voids which are inviting the charlatan to come in and fill them; of the indisposition of scientific medicine to sell itself and its superior abilities to the general public.

On a summer evening a year or so ago I was driving into a county seat of about eight thousand inhabitants. At the edge of the town the streets and adjoining fields were ajam with a great milling mass of

*Adapted from *Bul. Indiana St. Bd. of Health.*

people. I stopped and found a medicine show in full swing. A "black-face" was pulling as vulgar comedy as I have ever heard anywhere — obscene and disgusting, but apparently much enjoyed by the crowd. Later they sold a dozen different kinds of "medicine."

In addition there were two "doctors" with the show. They were examining patients and treating them, in a tent with two "private offices" and a "waiting room" between. These "doctors" freely admitted before the crowd that they were far superior to local talent. Inasmuch as they could positively cure such little things as cancers, diabetes, Bright's disease, any and all kinds of rheumatism and most everything else, one must agree that they were very remarkable men. One was a "general practitioner" who examined the poor saps first and then, if he could find an excuse, sent him over to the "specialist."

I asked the question, "In what is this man a specialist?" of seven consecutive bystanders, and from five of them received the interesting answer, "Oh, everything, I guess." Some specialist!

It was funny, and at the same time tragic. Why did the authorities permit it? Why were folks such fools? But at the same time I wondered why the men practicing scientific medicine in the community had failed to fill the great open spaces in the education of the public. Surely, the people of the community, if they had understood, would rather have gone to the well known doctors than to a couple of shysters, running a vulgar vaudeville show in a cow pasture!

Then there is the matter of Christian Science. Why has not the medical profession taken cognizance of the fact that many diseases can be cured by prayers and suggestions? Christian Science has been described as a real cure for imaginary disease and an imaginary cure for real disease. On the first count in this definition, "Science" offers an invaluable service. It also serves a great human need in making folks able to tolerate their pain with the best grace in their power.

The osteopath and chiropractor arose because doctors would not use massage as much as they should. Nothing is so gratifying, for many conditions, as massage. Every patient in the hospital looks forward to the alcohol rub given by the nurse. But, though the rubbing may help sometimes, it can be very dangerous in other conditions, and how is the layman to judge unless he is instructed by those whose business it is to know about such things. Sometimes back rubbing, though not directly dangerous, may cause valuable time to be lost or infectious disease to be spread, because the untrained chiro does not make the proper diagnosis and order isolation to be carried out.

The medical profession has only very recently undertaken to teach the public the facts about disease and its prevention. How, then, can folks be expected to judge between the merits of the scientific medical men and these pseudo-medical practitioners who teach much that is absolutely pernicious? How is the layman to know what is the latest and best in medicine if the doctor shuts himself behind a wall of professional ethics and a form of technical expression that is harder to learn and understand than are most foreign languages? A little truth; a lot of half-truth; pages of libel against scientific medicine; more pages of pure bunk; thousands of dollars' worth of quack advertising; and the picture of a nude blonde smashing athletic records and Anglo-Saxon conventions, to serve as a front cover, is all that is needed to make a modern "Health Magazine." And, Lord, how they sell!

Unless we of the medical profession fill the vacuum with truth, we may be sure that some one else will fill it with bunk. We are to blame for the position in which we find ourselves. If there is anything in scientific medicine, it should be able to beat charlatanism and quackery. The chiropractor takes his patient to a crazy chart of a spinal column, which looks all right to the man who has never studied the matter closely, and "teaches" his patient. Then he cracks his joints, predicts complete recovery in a few weeks, slaps him on the back and sends him out with something tangible. We fuss around making a diagnosis, which the quack makes in a minute. We can do nothing else and be honest, but does the patient know it? Then we tell him that he has splenomyelogenous leukemia or acute cholangeitis, and leave him with a prescription, not a word of which he can understand. That is, all too often we do this. Can you blame the sick man for seeking more tangible treatment?

We must teach, *teach*, TEACH! We must sell ourselves and our services to the public! We must fill the great open spaces between scientific medicine and the layman's need!

THURMAN B. RICE, M.D.,
Indianapolis, Ind.

I have received each edition of CLINICAL MEDICINE AND SURGERY since July and never expect to be without it, as I have found it to be indispensable indeed.—F.L.H., M.D., Tenn.

Sex Control and the Adrenals

THE adrenal glands, at seven months utero-gestation, are nearly as large as the kidneys, while in extreme old age they are so small that they can hardly be found at autopsy.

When adrenalin is found in the blood and urine of pregnant women after the fourth month of pregnancy, the functional condition of the suprarenal glands is good and the offspring will be a boy; otherwise it will be a girl.

The apparent effect of the adrenal glands on the control of sex in generation seems to support the socalled cross-heredity theory of sex control—the sex of the child will be opposite to that of the parent having the most vigorous health—the parent most likely to live the longer. This seems to be nature's method of keeping the sexes equalized, and supports the nutritional theory—that more girls are born during prosperity, when food is plentiful, while more boys are born during hard times, when food is scarce; also more girls are born among prosperous people, who have plenty of food, and more boys among the poorer classes, who have a poor grade of food.

I wonder what effect Amniotin would have on the control of sex in generation, if given long enough to produce a general effect on both the prospective father and mother, before conception, and then given to the mother during the early stages of pregnancy, until sex of the fetus was thoroughly formed.

I have seen the statement made that Amniotin was used in promoting feminine development in a woman of infantile type.

On page 199, of the March-April, 1932, issue of *Endocrinology*, appears the following abstract of an article by Asher and Klein:

"The authors find that injection of an adrenal cortex extract into male rats brings about an increase in the size of the epididymis, the seminal vesicles and the penis. The effect was strengthened by simultaneous injection of thymocresin. They confirm Müller in finding that the adrenal cortex extract retards the development of the sex apparatus of the female rat."

If adrenal extract were used long enough to produce full effects on both parents before conception, and used on the mother during the early period of pregnancy, until sex formation of the fetus had taken place, it might have a tendency to produce male offspring.

J. A. BURNETT, M.D.,
Waldron, Ark.

Volume of Urine*

AN increase of the volume of urine above 2,500 cc. is spoken of as polyuria; a decrease below 800 cc., as oliguria. Anuria refers to a condition in which no urine is voided and may include (1) suppression of urine, in which the kidneys fail to secrete, and (2) retention of urine, in which secretion takes place but there is an obstruction to the passage of the urine from the bladder.

Pathologic Causes of Alterations in the Volume of Urine

Polyuria

1.—Chills.
2.—Reduction of anasarca.
3.—Convalescence from acute febrile attacks.
4.—Diabetes mellitus.
5.—Diabetes insipidus.
6.—Chronic glomerular nephritis.
7.—Sometimes in hysteria, epilepsy or chorea.
8.—Hydronephrosis, associated with movable kidney (periodic polyuria).

Oliguria

1.—Febrile attacks, particularly typhoid.
2.—Loss of fluid from vomiting, diarrhea or hemorrhage.
3.—Cardiac decompensation.
4.—Nephrosis.
5.—Acute glomerular nephritis.

HENRY M. FEINBLATT, M.D., and
ARNOLD H. EGGERTH, A.B., A.M.

*Abstracted from "Clinical Laboratory Medicine," published by Wm. Wood & Co.

THE · LEISURE · HOUR

Horrors of Hypochondria

Mrs. Smith's husband led her a merry life. He was of a nervous disposition and somewhat inclined toward hypochondria. From time to time he would be taken with strange ailments which, for some reason or another, never developed into anything fatal.

But one morning, just at breakfast time, it appeared that Mr. Smith's time had come. He staggered out of his bed room with ashen face and terror stricken eyes. His body was bent forward in the shape of a parenthesis.

"Ah, Carrie!" he wailed, "it's come, just like I expected! I am due to be an invalid the rest of my days."

"Henry!" shrieked Mrs. Smith. "What on earth has happened?"

"It came on while I was dressing. All of a sudden I found that I couldn't lift my head. I couldn't straighten up. Now I feel that I am actually being drawn double."

"Are you in great pain?"

"No; no pain at all—it's probably paralysis! Run for a doctor!"

Mrs. Smith flew. In a few moments she was back with the family physician, and entering the room where her husband lay, she stood by wringing her hands while the doctor made an examination. Suddenly the doctor's shoulders began to quiver and heave.

"Oh, doctor, is there any hope?"

"Why, yes, Mrs. Smith, there is," said the doctor presently. "In fact his condition should improve rapidly after he has unhitched the third buttonhole of his vest from the top button of his trousers."

Children are creatures who disgrace you by exhibiting in public the example you set them at home.—ROBERT QUILLEN.

Among Those Injured

In certain hospitals the ailment of the patient, when he is admitted, is denoted in the files by certain letters, such as "T.B." for tuberculosis. A young interne in a large hospital was examining these history slips when his curiosity was aroused by a number on which the letters "G.O.K." appeared. He said to the physician who was showing him around:

"There seems to be a severe epidemic of this G.O.K. in the city. What is it, anyhow?"

"Oh, that means 'God Only Knows,'" replied the doctor.

Man Was Never Satisfied

Adam, after awakening from a deep sleep and viewing for the first time his helpmate in all her marvelous beauty, smiled broadly in amazed admiration as he began to count his remaining ribs.

"I wonder," he mused, "if a man can do without *all* his ribs."—*Od Quarterly.*

Lincoln's Prescription

There is a story, still current in Illinois, which says that an old farmer friend of President Lincoln's who used to correspond with him, complained on one occasion of his poor health. He received the following reply, which is quoted in Illinois as "Lincoln's Prescription": "Do not worry. Eat three square meals a day. Say your prayers. Think of your wife. Be courteous to your creditors. Keep your digestion good. Steer clear of biliousness. Exercise. Go slow and go easy. Maybe there are other things that your especial case requires to make you happy; but, my dear friend, these, I reckon, will give you a good lift."—*Hospital Hints.*

Both Wrong

Two gentlemen attending a concert got into a discussion as to the identity of the selection the orchestra was playing. One maintained that it was the intermezzo from "Cavalleria Rusticana," while the other was sure that it was the overture from "Tannhauser."

Presently one noticed a sign at the side of the stage and volunteered to go forward at the end of the piece and see which of them was right. He did so, and found that both had been wrong. The sign read:

"REFRAIN FROM SPITTING."

A Vocation for Rascals

A morality of 6 percent is far too high for cholecystectomy.—DR. B. B. RANSON, JR., in *Am. J. Surg.*, Sept., 1931, p. 513.

A Cheering Question

Wife (to husband sick in bed): "Darling, I'm just writing to mother—er—how do you spell cemetery, with an s or a c?" —*London Bystander.*

A Laxative Pome

Hinkle, Hinkle, little pill,
You have made me very ill;
Down below my diaphragm
Woe and misery hold command.

Hard upon your blazing trail
Sounds a borborygmal wail,
From each hypogastric loop
Comes a peristaltic whoop—
(Shades of Celsus! can there be
Surcease from such misery!)

When you've done your bloomin' worst,
And my "tummy's" almost burst,
Then you laugh in fiendish glee—
Hinkle, Hinkle, woe is me!

—DR. J. T. BEALL, Akron, Ohio.

So They Are

"What are the chances of my recovering, doctor?" asked the bed-ridden man.

"One hundred percent," the physician assured him. "Medical records show that nine out of every ten die of the disease you have. Yours is the tenth case I've treated. Others all died. Statistics are statistics. You're bound to get well."

Noses

The nose, says an expert, reveals character. A flat one, for instance, indicates that one has meddled once too often.

Those Long Days!

A young man consulted a physician about "tobacco heart," which he thought he had contracted by excessive smoking.

"Doctor," said he, "do you believe that the use of tobacco tends to shorten a man's days?"

"Do I!" exclaimed the doctor, "I know it does. I tried to stop once, and the days were ninety hours long." — *Pharmacal Advance.*

Too Plenty

A farmer became the father of twins and thereupon hurried to the nearest telegraph office and wired his sister-in-law:

"Twins today. More tomorrow."

—*Wall Street Journal.*

One on the Judge

"Your Honor," said the lawyer, "I submit that my client did not break into the house at all. He found the parlor window open, inserted his right arm, and removed a few trifling articles. Now, my client's arm is not himself, and I fail to see how you can punish him for an offense committed only by one of his limbs."

"That argument," said the judge, "is very well put. Following it logically, I sentence the prisoner's arm to one year's imprisonment. He can accompany it or not just as he chooses."

The prisoner calmly unscrewed his cork arm and walked out.—*Patchwork.*

These Get no Better Fast

A patient complained to the doctor that his hair was coming out.

"Won't you give me something to keep it in?" he begged.

"Take this," the doctor said kindly, and he handed the patient a pill box.

Colleges are all right, but we prefer buying magazines from a fellow who is working his way through the depression.—*Fountain Inn Tribune.*

THUMBNAIL · THERAPEUTICS

Prevention of Obstetric Complications by Diet and Exercise

OBSERVATION over a long period has shown that most pregnant patients who gain much weight or gain it rapidly have more complications than those who gain moderately.

The control of weight cannot, as a rule, be accomplished simply by diet. It is necessary to have the patient exercise in the open air. Both diet control and exercise in the open air should be initiated from the third month on. According to the individual case, a walk in the open air lasting from ½ to 1 or 2 hours each day will obviate toxemia and other complications. —DR. A. W. BINGHAM, of East Orange, N. J., in *Am. J. Obst. & Gynec.*, Jan., 1932.

Injections of Liver for Pernicious Anemia

In the case of patients with red cell counts below 800,000, for whom blood transfusions are not satisfactory or are dangerous, the injection of a sterile liver extract (freed from carbohydrates, lipoids and proteins) was found very satisfactory. Five (5) cc. of this extract was equivalent to 100 Gm. of fresh liver, and about 7.5 cc. were injected within 2 to 2½ minutes. The intravenous or intramuscular route may be used.—DR. J. F. WILKINSON, in *Lancet*, Oct. 10, 1931.

Early Treatment of the Cross-Eyed Child

By building up, if possible, the sight in the affected eye, the proper muscle balance is encouraged. This may be done by covering the good eye for a certain period each day; by using a special exercise glass, in which the lens before the good eye is frosted; or by continuing the use of atropine once or twice a week in the good eye, in order to force the other into activity. The treatment may be somewhat uncomfortable for a time, but it should be persistent. It should be started early in life, as the chance of material improvement decreases rapidly after the age of 6 or 8 years. One's first thought should *not* be operation. —DR. E. K. HALLOCK, of Freeport, N. Y. in *New York St. J. M.*, June 15, 1931.

Work and Rest in Nervous Disorders

In epilepsy, disseminated sclerosis, paralysis agitans and many other organic disorders, success in treatment is enormously favored by interfering as little as possible with the normal routine of cerebral activity; that is to say, with the ordinary amount of work. Regular and moderate hours of work and play may safely be regarded as an essential part of the treatment. Work is an ally, not an enemy, in therapeutic operations on nervous diseases. —SIR E. F. BUZZARD, M.D., in *Brit. Med. J.*, Nov. 22, 1930.

Suprapubic Puncture

A house-surgeon of mine, who had failed to pass any instrument by the urethra, had recourse to suprapubic puncture. Remembering that there was a risk attached to emptying completely a bladder that had been long distended, he removed the trocar after half the urine had been allowed to escape. Next day I found the patient with a running pulse, fever, marked signs of toxemia and a rigid lower abdomen. The punctured bladder had continued to empty itself into the pelvic cellular tissue and the patient was saved only by suprapubic cystostomy and a free opening up of the pelvic planes.

If, therefore, in a patient who is being submitted to suprapubic puncture, it is considered inadvisable to empty the blad-

der, the puncture should be made with a small-sized trocar and the cannula left in situ, or else removed only after a ureteric catheter has been threaded through it.—KENNETH M. WALKER, F.R.C.S., in *The Practitioner* (London), February, 1931.

Drainage of Peritonsillar Abscesses

Incision and drainage are the rule in opening abscesses, and yet this very well known rule seems to be forgotten in dealing with abscesses of the peritonsillar region. It is not uncommon to see peritonsillar abscesses which have to be reopened, and the textbooks disregard drainage in discussing the treatment of this condition.

A peritonsillar abscess should be treated like every other abscess. It should be incised in the well known manner, and a small gauze or vaseline gauze drain inserted into the wound and left in place for twenty-four hours. This will permit a sinus tract to be established and do away with any further necessity of probing or reopening, and will also guard against subsequnt hemorrhage.—DR. A. REICH, of New York, in *M. J. and Record*, Apr. 1, 1931.

Vitamins in Raw Apples

For most persons, both raw and cooked apples can be recommended as a valuable addition to the diet, according to the Bureau of Home Economics. They supply vitamins—more when eaten raw than when eaten cooked—minerals, fruit sugar and cellulose material or "roughage."—*Official Record*, U. S. Dept. of Agriculture, Apr. 25, 1931.

Ureteral Calculi

The presence of socalled hopelessly impacted calculi in the ureter, as may be apparently determined by cystoscopic investigation, is not a criterion justifying a surgical operation and should not be viewed with undue alarm, as there are a number of mechanisms operating either for allowance of urinary drainage or preservation of renal integrity.

Provided the patient is under continuous surveillance, provided there is neither clinical nor cystoscopic evidence of infection and, finally, provided the position and the size of the stone are favorable to its removal by conservative measures, the calculus may be allowed to remain in the ureter for weeks and even for months before a surgical operation is considered, with the hope that it may be made to come down by cystoscopic manipulations. It must be borne in mind, however, that, when a kidney ceases to excrete water, the intra-ureteral hydrostatic pressure essential for expulsion of the stone will be wanting, and if anything is to be expected from cystoscopic manipulations, unless the stone is in the intramural portion of the ureter, reestablishment of kidney drainage by indwelling catheters becomes essential. —DR. R. L. DOURMASHKIN, of New York, in *J.A.M.A.*, Jan. 23, 1932.

Vitamin D in Tetany

Vitamin D, the principal ingredient of irradiated ergosterol, relieves parathyroid and maternal tetany, reduces the coagulation time of certain infectious diseases having a prolonged coagulation time to normal and ameliorates symptoms of preeclamptic toxemia. The dosage for maternal tetany is 6 drops of viosterol, twice daily during pregnancy, and during lactation, if necessary.—DR. J. C. BROUGHTER, of Vancouver, Wash., in *Western J. Surg. Obstet. and Gynec.*, July, 1932.

Prophylactic Vaccination Against Tularemia

Subcutaneous injections of a vaccine prepared from pus obtained from a fatal case of tularemia, appears to have afforded the writer protection against infection, despite a large number of autopsies performed with ungloved hands on experimental animals.—DR. L. FOSHAY, in *Am. J. Clin. Path.*, Jan., 1932.

Non-Specific Protein Therapy

Non-specific protein therapy is particularly indicated where a focus of infection cannot be reached for culture for autogenous vaccine; where the infection has lasted so long that the specific response is no longer sufficient for a cure; where changes in structure prevent sufficient circulation and the lighting up of the infection during the non-specific reaction, which reactivates the healing mechanism.

Non-specific protein therapy is contraindicated in all forms of allergy and anaphylactic conditions; in very low blood pressure, decompensated heart lesions, acute organic kidney lesions and alcoholism; in all forms of tuberculosis; a tuberculin test should be made when tuberculosis is suspected.—Dr. E. Bonime, of New York, in *M. J. & Record*, Jan. 20, 1932.

Synephrin Emulsion

Synephrin is a chemical compound which in structure resembles epinephrin and ephedrine but is not identical with either. It acts as a vaso-constrictor. It is claimed that the constriction caused by synephrin is slower than that due to epinephrin but that it lasts much longer. The use of Synephrin emulsion (synephrin tartrate in a bland vegetable oil base) as a nasal mucosal constricting agent is more satisfactory than that of epinephrin and ephedrine on account of the irritation, burning and compensatory hyperemia accompanying or following their use.—Dr. E. K. Carmichael, of Detroit, in *J. Michigan St. M. S.*, Jan., 1932.

I want to take this opportunity of congratulating you on the fine medical journal you are editing. Clinical Medicine and Surgery covers many subjects that come up in general practice. The articles are to the point and give material that is helpful. —R. L. E., M.D., Winchester, Mass.

Insulin in Chronic Morphinism

Seventeen (17) cases of morphine addiction treated by insulin have been reported in the literature. A case of chronic morphinism of 25 years' standing, complicated by chronic alcoholism, treated by insulin is here reported. The result was a notable absence of withdrawal symptoms and freedom from relapse in the ensuing seven months. The patient was a physician. In this case morphine was at once withdrawn and insulin substituted, 10 units 30 minutes before each meal. The patient was placed on a high-carbohydrate diet and 200 cc. of orange juice were given two hours after each meal, to obviate late reactions. The insulin was raised to 15 units on the second day, before breakfast and lunch, and to 20 units before dinner, this latter dosage being adhered to for the remainder of the patient's stay in the hospital and for 2 weeks after discharge.—Dr. F. S. Modern, of Los Angeles, in *M. J. Record*, Aug. 17, 1932.

Basal Metabolism and Ethmoiditis

Most patients suffering from hypertrophic ethmoiditis with polyps and subject to frequent "colds," will be found to have a low basal metabolic rate.

If these patients are given thyroid until their basal metabolism is raised to or slightly above normal, the hyperesthesia and hyperplasia will improve.—Dr. Frank J. Novak, M.D., Chicago.

Food Superstitions

An idea commonly held by many people, that the combination of orange juice or other acid substances with milk or ice cream affects digestion unfavorably, has no scientific basis.

A crabmeat salad, blueberry pie and a glass of milk make a perfectly satisfactory meal. If no one item of that meal causes difficulty, the combination will not.

More indigestion has been caused by fears of what to eat and what not to eat than by actually eating unusual combinations.—U. S. Public Health Service, Washington, D. C.

Anesthetics

I feel that the choice of an anesthetic is best made by following a definite plan. The preliminary considerations to guide this choice are: (1) the mental and physical condition of the patient; (2) the proposed operation; (3) the technic of the surgeon; and (4) the experience of the anesthetist.

The final considerations in making the decision are the answers to these questions: 1.—Is the need for anesthesia or for analgesia? 2.—Is relaxation necessary? 3.—Is quiet breathing necessary? 4.—Is quick recovery of the reflexes desirable or necessary? 5.—Is a given agent or method likely to produce immediate or delayed untoward results?

The use of each anesthetic agent is limited by certain effects and at present I feel that no agent or method has been

developed which can be used as a routine without danger.—Dr. J. S. Lundy, of the Mayo Clinic, in J.A.M.A., July 4, 1931.

Scrotal Dressing Holder

An ordinary bicycle pants-guard makes an ideal dressing holder for the male patient. A towel is draped around the scrotum and penis and the pants-guard holds the towel snugly around the base of the scrotum. Thus these organs are held up and out of the way during a perineal or rectal operation and contamination of the field of operation is prevented.—Dr. D. C. McKenney, of Buffalo, in *Am. J. Surg.*, Apr., 1931.

Prostatic Disease

Consider the advantages of early removal of the prostate. The patient is usually a good surgical risk, the operation can be done in one stage, the average hospital confinement is 18 days, there are rarely any complications and the patient is rewarded with normally functioning results.

Contrast this with delayed action. The greater hazard, with the higher surgical mortality rate, a two-stage operation with a much longer period of hospitalization, the greater tendency to serious postoperative complications and the unsatisfactory functional results following.—Dr. W. F. Martin, in *Bull. Battle Creek Sanit.*, Apr., 1931.

The Curette

The curette is a most valuable agent in the management of uterine hemorrhage, not only from the diagnostic standpoint, but as a tentative curative measure in young women in the functional years. The curette should at least be given a chance, if not more than one chance, to fail before more radical measures are resorted to. Curettage is an illogical procedure, in that it does not reach the source of the trouble and in that the endometrium which is removed frequently grows back in precisely the same pathologic form, but the fact remains that it is sometimes curative, and that it is very often palliative.—Dr. C. Jeff Miller, in *Am. J. Obstet. and Gynec.*, Jan., 1932.

Antiseptics

Alcohol, acetone and Metaphen, in combination, have proved very efficacious upon skin and wounds.

Neutral acriflavine, intravenously, has given satisfaction in blood-stream infection but should not be considered specific.—Dr. O. S. Steiner, Lima, O., in *Internat. J. Med. & Surg.*, Dec., 1931.

Coronary Spasm

The most satisfactory coronary dilator is euphyllin, in doses of 1½ grains (0.1 Gm.) three times a day. If this upsets the stomach, it may be replaced, permanently or for short periods, with 7½ grains (0.5 Gm.) of theocalcium three times a day.—Dr. Don C. Sutton, of Chicago, in *Illinois M. J.*, Feb., 1931.

Acetarsone in the Treatment of Syphilis in Children

In 41 cases of congenital syphilis, in which treatment was given by mouth, stovarsol (acetarsone) gave satisfactory results. The dosage began at 0.005 Gm. per kilogram of body weight daily, and was gradually increased, at seven day intervals, to 0.02 Gm. A 4 to 6 weeks' rest period then followed, with this course of treatment and rest continued until serologic tests were negative; less frequent courses thereafter. In 9 of the cases the treatment was for a year or more.

Clinical improvement occurred in all patients. The serologic tests were reversed or influenced in most cases.—Dr. H. A. Rosenbaum, of Chicago, in *Am. J. Dis. Child.*, July, 1932.

Treatment of Poliomyelitis

The treatment of poliomyelitis, after the febrile period, consists in rest, relief of pain, prevention of deformity, massage and exercise, which may be passive, assisted, voluntary, carried out under water, but always supervised. The increase in the volume of urine, especially that voided at night, is suggested as a possible indicator of serious fatigue.—Dr. J. Ruhräh, of Baltimore, in J.A.M.A., Oct. 24, 1931.

Current Medical Literature

Metaphen by Mouth In Gastric and Duodenal Ulcers

In gastric and duodenal ulcer cases, more attention must be paid to direct treatment of the stomach and intestines, in the opinion of Doctor C. M. Trippe (and other neurologists), as expressed in the *Ann. Int. Med.* for January, 1933. At present, most patients with ulcer are considered to belong to the spasmophilic-vasoneurotic type and many cases of neurosis are found among them.

Early in 1928, Doctor Trippe began treating psychoneurotic patients, with chronic abdominal distress, by administering Metaphen 1:500 orally. He presents data on 82 cases (26 of gastric ulcer; 56 of duodenal), with recovery in 79 (temporary recovery in one), improvement in one and no improvement in one. The results suggest a possible specific cure for such ulcers.

Doctor Trippe began by administering 3 cc. of Metaphen three times daily, increasing the amount, in 1929, to 4 cc. three times daily. About half of his patients took the prescribed dose, diluted with equal parts of either glycerin or cinnamon water, in one-half glass of water, directly before or after meals, in cases of gastric ulcer, and one to two hours after meals, in cases of duodenal ulcer. In colitis, Metaphen was given directly after each meal and at bedtime.

In practically all cases, relief from the distress was obtained in three days, on the average, regardless of the fact that most patients had suffered for years. Although many patients had had nervous dyspepsia, vomiting everything taken by mouth, they never vomited the Metaphen and were able to eat large meals within one to three days after beginning its use. With relief from pain and distress in the three day period, Doctor Trippe continued with three or four doses daily for one week; two doses daily the second week; one dose daily the third week; and one dose every other day the fourth week, stopping the drug thereafter.

The great majority of the patients have had no recurrence of their chronic gastrointestinal symptoms. Their mental and nervous symptoms also disappeared entirely, despite the fact that, at the time of beginning treatment, all of them had psychoneurosis or compulsion forms of neurosis. As to diet, most of them, having been on a strict or modified Sippy regimen before treatment, were able to take and to continue with a varied diet shortly afterward, without distress, pain nor pressure.

Chronic ulcerative colitis cases became symptom-free in a very short time. Diarrheal stools containing pus and blood ceased after the first day.

In no case has toxicity of any type been demonstrated, although many patients have continued taking Metaphen, at a dosage of 16 cc. daily, for months at a time. Laboratory examinations have shown the mercury (Metaphen is a mercurial compound) to be eliminated from the body through the stools. None was found in the blood and consequently none in the urine.

Metaphen was elaborated by Doctor George W. Raiziss, of the Dermatological Research Laboratories, of Philadelphia. Especially destructive for staphylococci, its bactericidal effect on other organisms is also very high. It is far more powerful than mercury bichloride and other well known antiseptics. Against staphylococcus aureus it has a phenol coefficient of 1,500, and is 400 times more efficient than Mercurochrome. Metaphen does not precipitate proteins. Its toxicity is low when given by mouth. The average maximum tolerated dose for rabbits is about 24 cc. of the 1:1000 solution (about 12 cc. of Metaphen 1:500), per kilo body weight.

As Metaphen is primarily a bactericidal agent, Doctor Trippe explains its action on gastrointestinal ulcers by the various reports (reviewed in his article) of Rosenow, Duval, Girault, Askahazy and Smithies, which indicate that infection is a chief factor in the development and continuance of such ulcers.

Preoperative Premedication With Pentobarbital Sodium

The *British Medical Journal*, January 7, 1933, page 18, carries a report on the preoperative use of Nembutal (Pentobarbital Sodium), made at a recent meeting of the Section of Surgery of the Royal Academy of Medicine, in Ireland. Dr. R. W. Shaw praised Nembutal as a preoperative sedative. He said that it gave complete amnesia for the day of operation and that it was preferred to Sodium Amytal and Pernocton and caused less unpleasant after-effects. He reported on its use in 71 cases (18 by mouth and 53 intravenously) and stressed the need for less general anesthetic of any type following its use. Spinal anesthesia was used in four cases; general anesthesia in 49. Only two cases were failures. In addition, Doctor Shaw reported its satisfactory use in two obstetric cases.

Mr. Henry Stokes, President of the Section, and Mr. F. J. Morrin, from observation and personal use of Nembutal, regarded it as extremely good. They cautioned against its use in toxic goiter and jaundice. Dr. G. B. Meldon reported

its use in numerous cases, since March, 1931, with satisfaction, many of them being poor anesthetic risks. He mentioned that Nembutal is entirely burned up in the body, which he considers an advantage. Dr. Ninian Falkiner reported the relative absence of postoperative sickness and pain following its use. All agreed that, when used intravenously, it should be administered slowly.

Nail Infections

The principles of treatment of nail infections may be summarized as follows: Unless pus formation exists, it is a mistake to incise the parts; no real benefit is achieved, but, on the contrary, tissue spaces are opened up which may lead to an extension of infection. In the early stages, therefore, we should content ourselves with such conservative measures as the application of a narrow Bier's congestive bandage around the finger base, and the application of heat to the part through the medium of hot finger-baths or hot fomentations, the former for preference.

A soon as suppuration has occurred, it should be released by an appropriate incision, the part being incised in such a way as to secure a sufficiency of drainage and yet preserve the future function of the tissue. In practice the detail is as follows: Suppuration at the eponychium is incised by a flap incision, so designed that the integument overlying the nail-root is uplifted so as to permit the introduction of a narrow rubber tissue drain. Pus formation at the nail edge is released by an incision parallel to the long axis of the nail, but so placed as not to damage the protective cornified ridge.

If suppuration is extending beneath the nail into the nail-bed, it is rarely necessary to remove the nail-plate. Pus formation in this situation extends slowly, because of the physical resistance offered by the tissues, and if the progress of events is carefully observed, a local release of pus is secured while the suppuration is still confined to a small area.

To remove the entire nail-plate while the pus formation is limited is a harmful and barbarous procedure, for not only is it unnecessary, but it exposes fresh tissue to infection, and may result in permanent disfigurement of the finger tip. Proceed to remove, by means of a small, strong, sharp-pointed scissors, that portion of the nail-plate which overlies the pus collection. The after-treatment of nail infection implies the continuance of hot antiseptic finger-baths, of hot fomentation in the intervals of bathing, and of Bier's congestion. As soon as the infection has subsided, a mild astringent antiseptic, such as acriflavine (1 in 1,000), is an appropriate dressing. — Dr. John Fraser, in *Practitioner*, (Lond.) July, 1932.

Indigestion

According to Dr. S. W. Patterson, in *Practitioner*, (Lond.) July, 1932, a patient who complains of indigestion should be listened to with patience. It is a good thing in some cases to ask him to write out an account of his symptoms, their mode of onset and times of occurrence. His habits should be inquired into. A full clinical examination should then be made. In this way a tentative diagnosis may be made and a line of treatment laid down. If, after a short but sufficient trial of treatment, adequate progress is not reported, the special chemical tests of gastric secretion and feces and a full alimentary x-ray examination should be carried out with no undue delay. Thus the diagnosis will be made clear. Even the negative results of such a complete investigation will be an assurance to the practitioner and a satisfaction to the patient in conditions such as functional dyspepsia.

In cases of simple indigestion, when the cause has been established, the practitioner should prescribe an appropriate regime and encourage the patient to follow it carefully, "as men who have long felt themselves weakened by indisposition, give themselves up at last to the mercy of medicine and submit to certain rules of living, which they are for the future never to transgress."

A Study of Suicide

In J.A.M.A., May 14, 1932, Dr. Ruth E. Fairbank, of the Johns Hopkins Hosp., Baltimore, gives the following conclusions based on the study of 100 actual or attempted suicides (47 women and 53 men):

1.—Most suicides occur in patients who are depressed; but suicide is also relatively frequent in schizophrenic and paranoid patients, especially those whose conversation reveals depression.

2.—Disappointment over some situation which seems unmodifiable to the rigid individual is perhaps the most common motive in suicide. A common feature in our cases is the talk of hopelessness, of wanting to die, of a fear of "going crazy"; such expressions as "a feeling of emptiness," of "guilt," or the special preoccupation with various delusions of persecution and with autistic fantasy.

3.—The "rigid personality" is present in about one third of the cases and shows the need of careful watching.

4.—A family history of suicide is apt to reduce the resistance.

5.—Methods show the things from which patients need to be protected. In the hospital the impulsive plungers are especially difficult to take care of. On the outside, suicides from gas, gun-shot wounds and drowning are frequent.

6.—Warnings are to be found in previous attempts and the frequent talk of suicide. Some patients, however, give no warning; others apparently try to protect themselves; while a third group conceal the means of suicide.

7.—Special problems involve such questions as when to put a patient on suicidal observation and when to take him off, and how much risk to take in order to encourage an interest in occupation or to avoid unnecessary chafing against restrictions. The methods to be adopted must in the end rest with the personnel in charge, depending to a large extent on the rapport with the patient and the willingness of the family to share the responsibility which such a risk involves.

8.—Finally, regarding prevention, I would suggest the restriction of the loose handling of

firearms, poisons and sedatives, if possible, and would urge the cultivation of a sensitiveness to the aforementioned symptoms, warnings and mistakes. It is necessary to realize that a suicidal patient must never be left alone.

Organic Diseases in the Insane

Dr. Walter Freeman, director of laboratories, St. Elizabeth's Hospital, Washington, D. C., has been carrying out important biometric studies among the inmates of that institution and reported some of these results in *Human Biology* for May, 1932.

He states that tuberculosis, syphilis and cancer are important factors in the high death rate of psychotic patients, and has observed that about 75 percent of the cases of tuberculosis develop in persons of the schizoid type; that the cycloids and epileptoids, together, furnish about the same percentage of cases of syphilis; while the paranoids and cycloids give more than 80 percent of the cases of cancer.

On the basis of these findings, Dr. Freeman believes that the incidence of various diseases rests upon fundamental biologic reaction patterns, which can be recognized by the psychiatrist, and that physicians in general give too little attention to the psychologic panel in diagnosis. He also feels that his studies support the idea of an inherited cancerous diathesis.

Simplified Technic for Treatment of Acute Perforated Appendicitis

In *Am. J. Surg.*, July, 1932, Dr. F. B. Gurd, of Montreal, expresses his opinion that in no case of acute appendicitis, accompanied by peritonitis, abscess formation or gangrene, should operation be postponed in the hope that a more suitable period for operation may be arrived at. Supportive treatment can be equally well carried out after the major focus of infection has been eliminated and after an opportunity has been given for evacuation of toxic material.

The author thinks that the vertical incision through, or alongside of, the rectus muscle is accompanied so frequently by untoward sequelae that it should not be employed in septic cases. The McBurney incision does not permit of sufficiently easy enlargement to make it useful in difficult cases. The author prefers a transverse incision, placed above the anterior superior spine, adequate exposure being without the risk of injuring the musculature or nerve supply of the abdominal wall.

If, prior to incision of the peritoneum, the wound in the abdominal wall be properly prepared and treated with bismuth-iodoform-paraffin paste, ultimate infection of the wound can be avoided.

In every case the appendix should be removed, or at least that part of it attached to the cecum, and the stump ligated. As a rule it is advisable to attempt to bury the stump.

In all severe cases, particularly those in which gangrene is present or in which the patient's life appears to be in jeopardy, a technic whereby the abdominal wound is left unsutured and the whole area involved in the inflammatory process packed with liquid-paraffined gauze to which bismuth iodoform paraffin paste has been added, has, in the author's hands, appeared to be followed by a distinct lessening in the mortality rate. Later closure of such wounds should be accomplished after four to ten days by delayed primary, or by secondary, suture, with the return of the abdominal wall to normal.

The technic described has appeared to lessen the number of deaths, has cut, by at least one-third, the number of hospital days required for treatment and has eliminated the accidental development of fecal fistulae and of postoperative hernias.

Care of Burns

In *J.A.M.A.*, Apr. 16, 1932, Dr. V. P. Blair and associates, of St. Louis, state that, at the time of occurrence of a burn, any treatment that lessens shock and controls pain is good treatment. If the devitalization is not too deep for their penetration, the early use of tannic acid or other fixative may be all that is necessary, for it relieves pain and limits both infection and absorption. However, after a deep burn, the production of pus is prone to become active in the plane of contact between the living and the dead tissue, unless inhibited by some artificial means.

If the burn has destroyed the full thickness of the skin or more, the authors prefer to rely on the protective and reparative faculties of the live tissues, rather than on chemical control of the dead tissues, not only because, in these deeper burns, the quick may be too deep to be be reached by surface applications, but also because, when successful, complete fixation retards the natural sloughing off of the dead tissues and thus delays the opportunity for surgical repair. Caring for these wounds without resorting to tanning may require painstaking extra work, but it will be necessary for a shorter time and will win more worthwhile results.

The fighting forces of the surrounding tissues are aroused, drainage is facilitated, and pain is allayed by warm moist applications; plain water, physiologic solution of sodium chloride or a mild antiseptic may be used, but a hypertonic salt solution seems to have special virtues. By its use, most burned areas can be made sufficiently clean and the granulations firm for grafting, within from three to five weeks.

Episiotomy Versus Laceration

In *Med. Times and Long Island M. J.*, Mar., 1932, Dr. S. Lubin, of Brooklyn, points out that it seems logical to aim for an uninjured perineum, if we can at all control the situation. If this cannot be obtained, an episiotomy is preferable to a laceration. But the fact should be borne in mind that at least 50 percent of all patients will terminate labor without any gross injury to the pelvic floor and, if we subject every case to an episiotomy, we are inflicting a surgical wound where one ordinarily would not occur.

The signs of an impending perineal laceration are as follows: (1) by watching the stretched skin covering the perineum we may note an

impending tear by the blanching of an area approaching the vulvar ring border; (2) another sign is that of a trickle, or, at times, a moderate flow of blood coming from the vagina over the perineum during the interval between pains, when the head is receding; (3) a third sign may, and usually does, precede the two already mentioned and should predict the following of them. This is an arrested dilation of the vulvar ring in the presence of active uterine contractions. If the attending physician watches the head striking the vulvar ring repeatedly over a reasonable period of time, without a resulting enlargement of that ring, after it has reached what will be its maximum diameter, we are dealing with a perineum which will burst unless it is incised.

A carefully-planned incised wound, in a determined location, is safer and will heal better than a ragged laceration. Episiotomy, when indicated as above, is recommended as a prophylactic measure to enhance the general safety of mother and child where the delivery has to be hastened and to substitute a safer procedure for an imminent, unpreventable laceration.

Use of the Patch Test in Dermatology

The patch test is of assistance in determining the etiology of many cases of dermatitis venenata; it is superior to other methods of determining sensitization to contact excitants, particularly those of nonprotein nature.

As described by Dr. J. M. Graves, of San Francisco, in *Calif. & West. Med.*, Mar., 1932, the patch test is performed as follows:

The gummed surface of a strip of adhesive tape is partly covered with a piece of oiled silk about one inch square. Gauze or linen, two or three layers thick, is cut about one-half inch square. This gauze is moistened with the suspected material, placed in contact with the skin and covered with the oiled silk and adhesive tape. Ordinarily patches are left in contact with the skin for 24 hours. To be considered positive there must develop an area of dermatitis with itching, erythema and vesiculation, as in ordinary clinical dermatitis venenata. The history should indicate that the patient comes in contact with the positive substance.

The Maggot Treatment of Osteomyelitis

Two articles on the treatment of chronic osteomyelitis by maggots appear in *J.A.M.A.*, Apr. 2, 1932.

Drs. S. K. Livingston and L. H. Prince, of the Edward Hines, Jr. Hospital, Hines, Ill., have obtained what they believe to be the active principle by grinding live maggots in sterile saline solution and filtering the product through coarse and fine Berkefeld filters. Up to date the exact composition of the filtrates obtained in unknown.

One hundred (100) cases of chronic osteomyelitis and infected wounds in the hospital have been treated by the authors with the filtrates, in addition to live maggot applications. This was successful in 88 percent of the cases. These were all cases of long standing; they had had from one to twelve previous hospital admissions.

The general method of treatment consisted of a radical sequestrectomy, with precautions to prevent the introduction of infection. The wound was irrigated with physiologic solution of sodium chloride and live maggots introduced, repeated every third or fifth day according to the profuseness of the discharge. If the wound was clean after the third application, the introduction of live maggots was discontinued and the active principle introduced each day until healing was accomplished or the discharge again increased; if the latter, live maggots were again used.

A polyvalent or autogenous vaccine containing the active principle was employed every fourth day.

The authors have begun the treatment of old leg ulcers, sinus and mastoid infections and middle ear disease by active-principle and vaccine therapy, live maggots not being used in such cases. They are not yet in a position to report definite results.

Drs. E. H. Wilson, C. A. Doan and D. F. Miller, of Columbus, O., report 22 cases of children or adults with either acute or chronic osteomyelitis successfully treated with fly larvae during the past 18 months in the Ohio University osteomyelitis clinics. The average healing time for all cases has been 10 weeks; 7 weeks in children.

The type of scar remaining is a distinct improvement in that there is an obliteration of the cavity occasioned by operation and the disease process through the ingrowth of healthy granulation tissue, with at least partial restoration of the blood supply.

The authors feel that the main factors involved in bringing about healing by this method are probably the scavenger activity of the maggots in removing devitalized tissue favorable for bacterial growth and the production of an increasingly alkaline reaction in the wound.

Hypertension and Diabetes

Based on a study of 1,828 cases of diabetes mellitus, Dr. H. J. John, of Cleveland, in *Ann. Intern. Med.*, June, 1932, reaches the following conclusions:

1.—Blood pressure in non-diabetics rises proportionately higher in the cases of obese individuals than in those of normal weight (approximately 12 percent increase).

2.—Reduction in weight in non-diabetics brings about reduction in blood pressure.

3.—The consensus of various authors is that the blood pressure is higher in diabetics than in normal individuals of the same age. In the author's series of 1,828 cases of diabetes, the blood pressure was the same as in normal individuals below and including the fourth decade; above this age the incidence of high blood pressure was greater in diabetics.

4.—In the author's series of 443 cases of diabetes associated with hyperthyroidism, 37.6 percent of the patients had a blood pressure below 140 mm. and 62.4 percent had a blood pressure above 140 mm.; against 54.3 and 45.7 percent, respectively, in diabetes not associated with hyperthyroidism.

5.—In the author's series of cases, the diabetics up to 30 years of age showed hypertension only in 9 percent; whereas in diabetics with hyperthyroidism, hypertension was present in 42 percent of this group of young individuals. Up to the fifth decade, hypertension in itself presents no marked incidence of diabetes; after the fifth decade the incidence rises markedly.

6.—In 50 cases of hypertension in the author's series, glycosuria was present in 36 percent. In 50 glucose tolerance tests on these individuals, 39 percent showed glycosuria in the presence of a normal curve and 55 percent showed no glycosuria in the presence of a diabetic curve.

7.—The renal threshold in cases of hypertension is high.

8.—A close relationship exists between hypertension and diabetes, and hypertension occurs more frequently in diabetics than in non-diabetics.

Vaccine Therapy in Chronic Arthritis

Streptococcus vaccination seems to be indicated in chronic arthritis because it appears to be due to a streptococcic infection.

In *Ann. Intern. Med.*, June, 1932, Drs. B. J. Clawson and M. Wetherby, of Minneapolis, report upon their results in 301 cases treated by 5 or more intravenous injections, at weekly intervals. The intravenous method was indicated rather than the subcutaneous for the following reasons: (1) The intravenous method does not produce hypersensitiveness as does the subcutaneous, but desensitizes the patient who is already hypersensitive to streptococcic protein; (2) subcutaneous injections produce only a slight degree of protection.

The organism used in the vaccine was from a case of acute rheumatic fever and had been cultured for nine years, was of low virulence, did not agglutinate spontaneously and was safe for intravenous injection. The initial dose was 100 million organisms increased by 100 millions weekly.

About 80 percent of the patients who received 5 or more injections showed definite clinical improvement; about 50 percent had slight reactions.

Repair of a Torn Patellar Ligament

In a case of torn patellar ligament, reported in *J.A.M.A.*, Apr. 2, 1932, by Drs. E. K. Cravener and R. D. Reid, of Schenectady, a 1-inch transverse incision was made directly across the tibia at the midlevel of the tibial tuberosity. From the middle of this incision a vertical section of the skin was carried upward to well above the patella. Through this incision the frayed out tendon and the anterior surface of the patella were seen. Two oblique, divergent drill holes were passed upward from the distal to the proximal margin of the patella. A three-sided tunnel was then cut through the tibia directly under the tuberosity with an osteotome. The remains of the patellar ligament were split in the long axis from the knee-cap downward and retracted laterally.

Two half-inch bands of fascia were sutured end to end, producing a strip about 16 inches long. A free end of the fascial transplant was passed through the tibial tunnel, braided on its fellow, and the two free ends were carried upward through the drill holes previously cut in the patella. These were drawn taut with the knee in full extension, sutured to themselves and embedded into the quadriceps tendon. The vertically sectioned patellar tendon was then sutured firmly and the skin and subcutaneous tissue closed. The patient made a rapid and excellent functional recovery.

Parenteral Administration of Liver Extract in Postoperative Cases

Liver extract is valuable in postoperative cases for patients who were anemic before operation and who, during operation, lose much blood. For several reasons, such as limited liquid diet, undesirable vomiting and nausea, etc., the oral use of liver substance or extract is contraindicated.

In *Illinois M. J.*, June, 1932, Dr. J. K. Narat, of Chicago, reports that in 17 such cases he found that the parenteral use of liver extract was satisfactory. The treatment began on the first or second postoperative day and 2 cc. of liver extract was injected on five consecutive days in the gluteal region on alternate sides. Pain, which may be caused by some drops of the liver extract being deposited in the subcutaneous fat, is avoided by a prior injection of 1 or 2 cc. of a 1-percent solution of procaine.

Parenteral administration of liver extract was well tolerated by all the patients and no untoward effects were noted. The extract exerted a stronger action upon the red blood corpuscles than upon hemoglobin. The most remarkable effect of the extract in practically all cases was a rapid gain in strength, increase of appetite and development of a sensation of well-being.

Parenteral Liver Therapy for Pernicious Anemia

As asserted by Drs. M. B. Strauss and W. B. Castle, of Boston, in *J.A.M.A.*, May 7, 1932, intramuscular liver extract therapy in pernicious anemia has numerous advantages over oral therapy and is entirely free from systemic reaction, when properly prepared extracts are employed in the usual dosage. Intravenous therapy is not infrequently accompanied by a systemic reaction and has ordinarily no advantages not secured by intramuscular injection.

The single dose necessary to produce a maximum response of new erythrocytes has been found to vary from the extract derived from 20 Gm. of liver to the amount derived from 100 Gm. of liver, in the 27 patients tested. For maintenance, the weekly (or every two weeks, in some cases) injection of the extract derived from 15 Gm. of liver have generally sufficed. A few patients have required the weekly injection of the extract from as much as 100 Gm. of liver. A commercial liver extract was used.

The extract must be prepared so as not to lose any of its potency in the process.

Intramuscular liver therapy has been found of great benefit in resistant cases of pernicious anemia and in cases presenting symptoms due to spinal cord degeneration.

In the same journal, Dr. O. Richter and associates, of Chicago, report on the use of a horse liver extract. The fraction used was approximately the same as Minot's fraction G., soluble in 70 percent alcohol and entirely soluble in water. This fraction is low in solids.

The authors claim, based on the results of test and control experiments on pernicious anemia patients, that horse liver extract is more potent than cattle liver extracts and that, with the horse liver extract, complete remission of pernicious anemia was obtained in a short period. It is suggested that the antianemia principle is in greater concentration in horse than in cattle liver extract.

Proctoscopic Examinations

In summarizing the results of 4,016 proctoscopic examinations, in *Illinois* M. J., May, 1932, Dr. M. H. Streicher, of Chicago, stresses the desirability of instructing patients to have such examinations made periodically. Many lesions, especially carcinoma, can be effectively treated if discovered early.

In the preparation of patients the author adopts the following routine: (1) the patient is kept on clear liquid diet for 36 hours; (2) one soap-suds enema (warm) is given the night before the proctoscopic and another enema is given the morning of the examination; (3) breakfast is withheld; (4) it is well to inform the patient of every step of the entire procedure. The knee-chest position is that of choice and liquid petrolatum is employed as the lubricant. No inflation of the bowel is necessary or desirable.

The Periodic Health Examination in General Practice

A health examination should include the physical signs of heart and lungs, including a reading of the blood pressure, and a simple chemical and microscopic examination of the urine, a visual examination of the throat and a digital examination of the pelvic organs in both sexes. An examination of the fundus of the eyes, and a testing of the reflexes of the pupils, skin and muscles are important to indicate into what detail the examination should be further extended, particularly with reference to the nervous and endocrine systems.

Just as a most important function of the examining pediatricians is the control and prescribing of the food of children, the investigation of the use of drugs and the diet of adults demands from everyone's medical adviser a careful oversight and regulation. — Dr. S. W. Lambert, *in* The Health Examiner, *May*, 1931.

Eradication of Tuberculosis

Hope for the eradication of tuberculosis, in the present state of social life, lies in its prevention by education in hygienic living, better housing of the laboring classes, prevention of undernourishment, particularly in times of unemployment and general business depression, more universal prenatal and postnatal care, abolition of child labor, the treatment of bone and joint tuberculosis in children in seaside sanatoriums or institutions at high altitudes, where heliotherapy and aerotherapy can be carried out most successfully, preventoriums for predisposed children, periodic health examinations for the early discovery of pulmonary tuberculosis in old and young, and the treatment of all tuberculosis cases at the right time and at the right place. If to this can be added some preventive inoculation or curative serum, on which so many of the American and European research scientists are now at work, so much sooner may mankind be freed from the appearance in its midst of the Great White Plague.—Dr. S. A. Knopf, *of New York, in* J.A.M.A., *June 13, 1931.*

NEW · BOOKS

I am scarce able, with much ado, to make one half-year's allowance shake hands with the other. And yet if a book of four or five shillings come in my way, I buy it, though I fast for it; yea, sometimes of ten shillings.—GEORGE HERBERT

Poliomyelitis

POLIOMYELITIS: A Survey Made Possible by a Grant from the International Committee for the Study of Infantile Paralysis Organized by Jeremiah Milbank. *Baltimore*: Williams & Wilkins Company. 1932. *Price* $6.00.

The *International Committee for the Study of Infantile Paralysis* was organized in 1928 and financed by a private citizen of New York City. The membership was composed of the heads of the medical departments of a number of universities and laboratories, here and abroad, and the scope was the whole field of research in poliomyelitis. The organization is a fine example of the way in which the layman may help the scientist in the battle against disease. Dr. Wm. H. Park, of New York University, is the chairman.

This volume—the result of four years of collaborative work by the Committee—embodies the most complete, up-to-date information on all important aspects of the disease. The entire available literature, comprising more than 8,000 references, was searched and the important information discovered, analyzed and correlated in the form of collective reviews. These include a historical summary, etiology, resistance and immunity, symptomatology, treatment, pathology and epidemiology. There is a selected bibliography of references to works by authors cited throughout the book, as well as a comprehensive index.

The report shows that probably not more than 25 percent of all cases of poliomyelitis that can be diagnosed develop paralysis and that the case fatality is usually from 10 to 15 percent. In regard to the value of treatment in the preparalytic stage, it is rather disappointing to find that there is nothing to indicate the value of convalescent serum, either in reducing case fatality or in preventing paralysis.

While it is a matter for discussion whether the $280,000, spent in the collection of data and the publication of this work, might not have been more wisely expended in direct clinical or experimental attack on the disease itself, yet it must be admitted that the information on the various aspects of infantile paralysis brought together here will be of vast value to clinical and other workers in this field, as well as to those interested in public health and epidemiology. It is a great matter to have such an epitome at one's finger's end, so to speak. It should be in every medical library.

The typography and bookwork are excellent.

Allen: Sex and Internal Secretions

SEX AND INTERNAL SECRETIONS: A Survey of Recent Research. *Edited by Edgar Allen, Ph. D., University of Missouri. Baltimore*: Williams & Wilkins Company, 1932. *Price*, $10.00.

The names of the contributors to this book stamp it as a great contribution to scientific literature. The editor's name, alone, indicates its outstanding worth as a source of information. It is not a popular book on sex, but a store-house of the material gathered by its contributors during the past decade. Each one of its nineteen chapters is devoted to certain special phases or problems (with their associations) of biologic and physiologic functions, beginning with foundational factors in *Drosophilia* and the lower vertebrates, progressing to a study of the human gonadal hormones and ending with studies on sexual drive and endocrine disorders in sex function in man.

No phase of the general matter of sex is overlooked, so far as present knowledge throws light on its basic principles. In consideration of theelin, the ovarian follicular hormone, the primary female sex hormone, it is stated that its normal function is to maintain the accessory genital organs and the secondary sex characters of the female in full functional condition. The isolation and investigation of this hormone is the work to which Doctor Allen has devoted much of his time. In collaboration with him, Dr. E. A. Doisy studied its chemical properties and developed methods for isolating it in pure, crystalline form. The early work and later studies with this substance are gone into in detail. In discussing the applications of these studies on theelin to human welfare, Doctor Allen states that it apparently has little action upon the ovaries, themselves, and is a temporary substitute rather than a cure for hypo-ovarian disorders; also, that it can be expected merely to alleviate abnormal menstrual conditions or temporarily adjust severe

menopause symptoms. Already, it has been widely used clinically for these purposes.

Each chapter is supplemented by an extensive bibliography, so that anyone interested may refer to all original, published sources. No other volume available on sex and the internal secretions is so comprehensive as this one. To be even more definite: No group of volumes dealing with allied subjects is so comprehensive. Furthermore, because of the exhaustive work of the contributors to this volume, I wish to offer the prophecy that it will serve as the most reliable general source of information on its subjects until these same contributors see fit to write another one. Work of this nature should be rewarded. Giving Doctor Allen and his co-workers due credit and praise for their labors now is one way. Time will continually add more.

This volume will be the prized handbook of all scientifically minded students of sex problems and functions. Physicians will find in it much fundamental material, with some information on its clinical application, particularly with regard to the use of theelin and to the Aschheim-Zondek test for pregnancy. All readers interested in the physiologic development and activity of the generative organs and their associated glands will find in it a wealth of basic information.

Fishbein: Fads and Quackery

FADS AND QUACKERY IN HEALING. An Analysis of the Foibles of the Healing Cults, with Essays on Various Other Peculiar Notions in the Health Field. By *Morris Fishbein, M.D., Editor of The Journal of the American Medical Association, etc. New York: Covici, Friede, Publishers.* 1932. *Price,* $3.50.

"Fads and Quackery" will probably be read with resentment or jubilation, depending on one's point of view, because of the inclusion of chapters on certain cults whose adherents feel very strongly about them. While man has progressed enough to discuss kings and government openly, without incurring *lèse majesté,* he is still very sensitive about his religious convictions. This is a queer vagary of the mind, which sets a man against a fellow being, in defense of a deity avowedly most able to deal affectively and summarily with the supposed blasphemer.

One wonders why so many quacks thrive and so many more keep cropping up to swell their ranks. Is it because the average practitioner is too mercenary himself, too lazy or too ignorant to give his patients the benefits of modern medical knowledge, thus furthering the game of the charlatans?

Dr. Fishbein does not reserve his irony for the quacks alone. The wobblers in his own profession come in also for their share of his castigations. He does more: he puts in the hands of the public a measuring rod to enable it to choose a physician when the need arises. All in all, in spite of the author's close connection with the medical profession, one feels that, without pretention to infallibility, he has no stake in the game except that of helping the misguided and the dupe.

"Chiropractors, Naturopaths, the "Big Muscles Boys," the Cult of Beauty, Rejuvenation, etc., etc., one and all are made to parade before one's eye; the searchlight pitilessly made to play on them, unmasking them and showing them for what they actually are: racketeers, pure and simple, interested solely in shaking the last farthing out of their unfortunate victims.

"Fads and Quackery" will interest the social student; the average reader will find it absorbing and revealing. It should prove invaluable to the dupes of these unscrupulous gentry, providing their critical faculty remains unimpaired.

S. E.

Smith: The Young Physician

HINTS TO THE YOUNG PRACTITIONER. By *G. Francis Smith, M.R.C.S. Eng., L.R.C.P. Lond. London: Oxford University Press, Humphrey Milford.* 1932. *Price* $1.50.

The author estimates that ninety percent of physicians do general practice, and that most men entering it do not quite realize its true significance. He offers this small volume of advice from forty-six years of experience. It contains tips which will smooth over many a difficulty for the beginner. Space is devoted to medical "etiquette" (ethics, in the United States), to the necessity of good manners, and to the values of being punctual and reliable. He says, "To be reliable is the best 'character' awarded by the public." Valuable points are given on how to handle certain delicate and serious questions and cases. Suggestions are offered on acquiring and retaining patients. Physicians are advised to look after their own health (which is so often neglected), and everyone entering practice is urged to join a medical society. The key sentence of the book appears on page 20: "It is better to take any amount of trouble than to make a blunder."

The book has a message for every physician planning to do general practice. It is written from the point of view of practice in England, but practically every statement applies to physicians in other countries as well. It should be read by the intern just before he leaves for his location.

Surgical Clinics of North America

THE SURGICAL CLINICS OF NORTH AMERICA. Philadelphia Number. *Volume 12, Number 6, December,* 1932. *Index Number. Philadelphia and London: W. B. Saunders Company. Issued serially, one number every other month. Per Clinic year (February* 1932 *to December* 1932). *Price, Paper,* $12.00; *Cloth,* $16.00.

The December, 1932, number of the *Surgical Clinics of North America* consists of 30 contributions from Philadelphia clinics.

Dr. C. F. Naursau opens with a case of "Impaction of Small Intestine, Gangrene and Meckel's Diverticulum." He also contributes papers on "Traumatic Hernia of the Diaphragm" and "Massive Bone Graft for Ununited Fracture of Humerus."

There is a good discussion of socalled "Railway Spine," by Drs. J. B. Carnett and W. Bates, illustrated by a clinical case.

Dr. T. T. Thomas writes on "The Use of Nail in Bassini Operation for Large Inguinal Hernia." Other good clinical papers are those,

by Drs. D. B. Pfeiffer and J. M. Deaver, on "Carcinoma of the Colon and Rectum"; by Dr. T. J. Ryan on "Acute Postoperative Intestinal Obstruction"; by Dr. J. S. Rodman on "Head Injuries"; by Dr. A. E. Billings on "Suppurative Pericarditis"; by Dr. A. B. Gill on the "Treatment of Ununited Fractures of the Forearm" and by Dr. V. W. Murray Wright on "Infections in the Dangerous Circle of the Face."

There are 9 short clinical contributions from the surgical clinic of Dr. W. Wayne Babcock, dealing with various conditions.

Dr. E. J. Klopp gives an admirable discussion of the value of the Stewart incision in the radical amputation for carcinoma of the breast, and some new ideas regarding surgical drainage are contributed by Dr. E. T. Crossan.

This is an excellent number of the Clinics.

Twitmyer and Nathanson: Speech Defects

CORRECTION OF DEFECTIVE SPEECH. *By Edwin Burket Twitmyer, Ph.D., and Yale Samuel Nathanson, Ph.D. Philadelphia: P. Blakiston's Sons & Co., Inc. 1932. Price $3.50.*

This book is presented as "a complete manual of psychophysiologic technic for the treatment and correction of the defects of speech." Considered as such, it accomplishes its purpose admirably. Authorities may disagree with some of the theories herein presented, such as "upper chest breathing," but the major portion of the book is concerned with material to effect the rehabilitation of normal speech, regardless of the theoretic causes of the defect. The authors aim at restoring proper coordination through the means normally employed during the acquisition of speech. The exercises are based on proper breathing and control of breath, correct kinesthetic imagery involved in speech and, finally, the combination of these two. This book is the result of many years' work at the corrective speech clinic at the University of Pennsylvania, by two psychologists. Workers in this field have long suffered from an abundance of theory and a lack of usable and practicable exercises. They will especially welcome this presentation for its numerous charts of case histories.

R. Z.

Meisen: Varicose Veins and Hemorrhoids

VARICOSE VEINS AND HEMORRHOIDS AND THEIR TREATMENT. *By V. Meisen, M.D., Former Chief Surgeon to the Policlinic, Sundby Hospital, Copenhagen. With a Preface by Aug. Krogh, Ph.D. 25 Figures and 8 Coloured Plates. Copenhagen: Levin & Munksgaard, and London: Humphrey Milford, Oxford University Press. 1932. Price $3.00.*

The clinical aspects, as well as the results and sequelae, of the injection method of treating varicose veins have been more thoroughly investigated and discussed in the United States than elsewhere, and the chief value of Dr. Meisen's monograph, to physicians and surgeons here, will be the findings from his painstaking investigation into the anatomic and physiologic factors in the etiology of these venous disturbances and kindred lesions. The author shows that circulatory disturbances result from man's still imperfect adjustment to his evolutional progress to the erect position, but he believes that, in time, physiologic considerations will lead to a method for their prevention.

The author draws special attention to the importance of phlebitis as a precursor of permanent impairment of the venous circulation in the lower extremities. About half of the cases of phlebitis are postoperative in origin and the varicose sequelae are the least favorable to injection treatment.

The author thinks that the injection method is the greatest advance in the treatment of hemorrhoids. For the injection fluid he prefers a weak (5 percent) solution of phenol in almond oil, 1 or 2 cc. being injected at intervals of from 3 to 8 days. With this technic he has had no instance of necrosis in a large series of cases.

The book may be regarded as a notable addition to the clinical literature regarding varicose veins and their treatment. It is clearly printed, well illustrated and the translation appears to be excellent.

Berman: Food and Character

FOOD AND CHARACTER. *By Louis Berman, M.D. Boston and New York: Houghton Mifflin Company. 1932. $3.50.*

A few years ago Doctor Berman excited medical and lay curiosity by a book on the glands of internal secretion. He will do the same with "Food and Character." He considers character a function of metabolism and prophesies the eventual control of character through the effects of foods on endocrine activity. He even goes much further, and, at times, the reader is inclined to visualize a future when, by diet, we will start in infancy and develop our political, military, intellectual and religious leaders. He places abnormalities of character and personality (even some types of insanity) within the range of dietary deficiency; refers to the increased stature of American-born and reared Japanese, and to the differences in colts and calves, food plants and fruits raised in different mineral-rich areas; and points out the marked tendency to obesity that has appeared in America in the past thirty years, apparently due to change in diet.

The known facts that food constituents can markedly affect the physical structure indicate that they may and do affect the nervous structure and mental activity. The chapter on the nutrition of the brain goes into the matter in considerable detail, with consideration of the chemicals particularly necessary for brain activity. With the historical fact that many men of genius have had gout, the reader may conclude that purin foods stimulate the brain to genius. The author takes cognizance of heredity and the physical and mental structure with which we are endowed, but lets the reader infer generally that we are what we are, not because

of these basic factors, but because of what we eat. That brings us to the question: Has Doctor Berman brought us to the threshold of a transformation of humanity, or merely furnished us an evening of entertainment?

The book is semi-popular in nature and probably will stimulate pseudo-dietary experts to create new dietary fads and fancies. It will be of general interest to everyone concerned with the effect of diet on health and disease.

Medical Clinics of North America

THE MEDICAL CLINICS OF NORTH AMERICA. University of California, Dr. Jonathan C. Meakins. *Volume 16, Number 3, November, 1932. Philadelphia and London: W. B. Saunders Company. Issued serially, one number every other month. Per Clinic year, July, 1932 to May, 1933. Price, Paper, $12.00; Cloth, $16.00.*

The November, 1932, number of the *Medical Clinics of North America* is devoted to contributions from the University of California. These consist of the special lectures given in the Medical School during March and April, 1932, by Dr. Jonathan C. Meakins, Professor of Medicine at the McGill University Medical School, Montreal, selected as visiting lecturer.

Dr. Meakin's lectures include a series of theater clinics on different subjects—dyspnea, cyanosis, edema, rheumatic fever, nephritis, etc. These deal especially with normal physiologic processes and their disturbances in disease, particularly in the disease considered in the discussion. The newer scientific approach in medicine, which is rapidly replacing the older descriptive method, is set forth in an instructive and inspiring manner.

There are two clinical lectures: "The Treatment of Cardiac Irregularities" and "Jaundice and Blood Pressure."

The number concludes with three clinico-pathologic conferences.

From the strictly clinical point of view, these lectures and demonstrations are very valuable, as in the ample discussions on each lecture questions are asked and answered—questions which naturally would arise to a clinical observer and are fruitful in arriving at a correct diagnosis through differentiation. This is well marked in the clinic on serous tuberculosis.

Thaysen: Non-Tropical Sprue

NON-TROPICAL SPRUE: A Study in Idiopathic Steatorrhoea. *By Th. E. Hess Thaysen, M.D., Senior Physician to the St. Elisabeth's Hospital, Copenhagen. Copenhagen: Levin & Munksgaard; London: Humphrey Milford, Oxford University Press. 1932. Price $3.75.*

Sprue has always been considered a specific tropical disease. It was only in 1905 that Richartz first described cases of "non-tropical" sprue, that is, sprue occurring in persons who had never been in the tropics. The purpose of Dr. Thaysen's monograph is to describe the clinical picture of non-tropical sprue, to demonstrate that it is identical with the sprue occurring in the tropics and to extend the interest in and knowledge of this peculiar disease, the etiology and pathogenesis of which are still obscure and concerning which there are other unsolved problems.

The clinical aspects and laboratory findings are described in 14 chapters. This is followed by detailed descriptive reports of several cases observed by the author in his practice, and a bibliography of references.

The book should be of value to pathologists and to clinicians interested in this type of disease; also as a reference work in medical libraries.

Preventive Medicine

OUTLINE OF PREVENTIVE MEDICINE; For Medical Practitioners and Students. *Prepared Under the Auspices of the Committee on Public Health Relations, New York Academy of Medicine. 24 Contributors. Editorial Committee: Frederic E. Sondern, Chas. Gordon Heyd and E. H. L. Corwin. Second Edition Revised and Enlarged. New York: Paul B. Hoeber, Inc. 1932. Price $5.00.*

The first edition of this valuable work was reviewed in this journal in October, 1929 (page 776), and the good words then said are still true. The book has had a thorough revision and three new chapters have been added.

Preventive medicine is the medicine of the future, and every physician who purposes to keep up with the march of progress needs the information here presented.

This is not a textbook of hygiene and sanitation, but deals with the prevention of disease in its larger and more personal sense, stressing the importance of the periodic health audit and giving valuable suggestions for those who are undertaking this important and modern type of work. Such a book should be in the library of every forward-looking clinician.

Latz: Physiologic Birth Control

THE RHYTHM OF STERILITY AND FERTILITY IN WOMEN. A Discussion of the Physiological, Practical, and Ethical Aspects of the Discoveries of Drs. K. Ogino (Japan) and H. Knaus (Austria) Regarding the Periods when Conception Is Impossible and when Possible. *By Leo J. Latz, A.B., B.S., M.D., Member of the Staffs of Loyola University Medical School and Alexian Brothers' Hospital; etc. Second Edition. Chicago: Latz Foundation, 209 S. State St. 1932. Price, $1.00.*

There has long been a tradition that, some time between the menstrual periods, there is a "safe time"—an interval during which conception will not take place—but, until very recently, we have known so little about the mechanism of the female sex function that there was no scientific basis for establishing where this interval might fall.

Recent studies have shown fairly conclusively that ovulation takes place from twelve to sixteen days *before* the *subsequent* menstruation; that the unfertilized ovum lives not more than 24 hours; and that sperm cells in the female genital tract will survive not more than two or three days.

On the basis of these facts, Drs. K. Ogino (Japan) and H. Knaus (Austria), working independently, have advanced the idea that, except

during seven or eight days midway between the menstrual periods, conception will not take place in normal women who menstruate regularly; so that they can be reasonably sure of the dates. In such women, Ogino and Knaus report that conception *never* takes places during the ten days *before* menstruation, and very rarely during the ten days *after*.

Dr. Latz has studied the reports of these workers very carefully and has summarized the findings in this little book, which is written in language so simple that it should be readily understood by anyone of reasonable education and intelligence, but contains all the essential information.

The outstanding difference between this method of birth control and the others is that it is sanctioned by the Roman Catholic Church. Dr. Latz appears to be a Romanist, and the text of some of the collateral information is based upon ecclesiastic dogmas, rather than scientific facts, which, of course, has nothing to do with the validity of this theory.

In the present state of our knowledge, we certainly are not justified in relying on this method in cases where conception *must* be prevented; but where contraception is advisable, though not imperative, especially in Romish patients or others who object to the mechanical and chemical methods, this physiologic method may well be tried and the results should be carefully recorded and reported, so that its reliability or uncertainty can be determined as promptly as possible.

Crothers: Psychic Factors In Pediatrics

PSYCHOLOGY AND PSYCHIATRY IN PEDIATRICS: THE PROBLEM. Report of the Sub-Committee on Psychology and Psychiatry. *By Bronson Crothers, M. D., Chairman, White House Conference on Child Health and Protection. New York and London: Century Company, 1932. Price, $1.50.*

That every child should be under a certain amount of trained observation from the mental hygiene point of view, is conceded. Since the family doctor is the logical person to observe the child and to be his mental policeman and the adviser of his parents, he is urged to supply himself with sufficient special knowledge to carry on the work satisfactorily. The first section is devoted to a presentation of the problem by Doctor Crothers, after which it is discussed by child welfare leaders from different parts of the United States.

The general scheme of a certain child guidance institute is considered in detail, with attention to types of service, the training of social workers and the treatment of cases. One section is devoted to the place of a mental hygiene clinic for children in the community, by discussing the present activities of a New Jersey juvenile clinic.

The book will appeal to all persons interested in child guidance and especially to those interested in establishing and maintaining such work on a satisfactory basis.

Nomenclature of Disease

A STANDARD CLASSIFIED NOMENCLATURE OF DISEASE. *Compiled by The National Conference on Nomenclature of Disease, edited by H. B. Logie, M. D., C. M., Executive Secretary. Published by the Commonwealth Fund, New York City, 1933; printed by E. L. Hildreth and Company, Brattleboro, Vermont. Price, $3.50.*

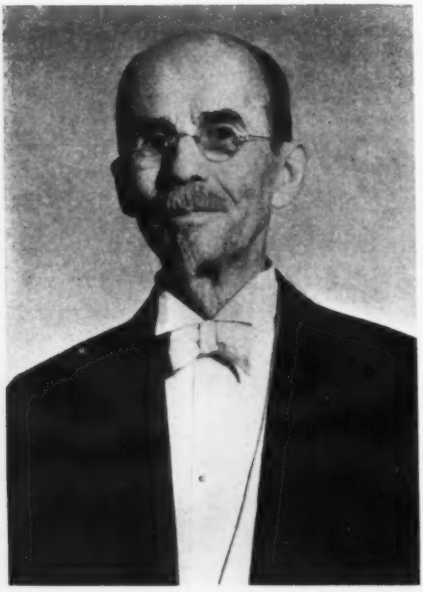
In the past, hospitals, health organizations and insurance companies have been obliged to devise their own nomenclatures or borrow from some other organization. This has led to much confusion in keeping records uniform and in making them available for study. To remedy this, the National Conference on Nomenclature of Disease was created a few years ago, to prepare a uniform system of naming and classifying diseases. For the past three years, 27 national societies and governmental bureaus in the medical, clinical and statistical fields have collaborated through the Conference and have produced this book, which is thorough, presenting a numerical index of diseases and considering their etiology and the parts of the body affected. It incorporates the recommendations of various national societies, of many important hospitals, and of numerous individual physicians, and is designed to promote uniformity in the expression of medical thought and to encourage greater precision in the analysis of the causes of illness and death, thus providing an accurate basis for mortality and morbidity statistics. We trust that it will be adopted by all organizations and individuals concerned with the nomenclature of disease.

Early Recognition of Cancer

ANLEITUNG ZUR FRÜHZEITIGEN ERKENNUNG DER KREBSKRANKHEIT; Im Auftrage des Landesausschusses zur erforschung und bekämpfung der Krebskrankheit in Sachsen von Prof. Bert, Fromme, Payr, Rostoski, Saupe, Schmorl, Tonndorf, Warnekros. Leipzig: S. Hirzel. 1932. Price $0.75.

This German study is intended to enable general practitioners to recognize and properly diagnose malignant disease at the very first symptoms, so as to insure a cure by surgery, with or without radiotherapy. The small book of 130 closely printed pages has been written so clearly that even educated laymen could follow the expositions. The distinguished authors treat the entire problem exhaustively. In the first (general) part they discuss the dangers, curability and general diagnostic measures of carcinoma and sarcoma. In the second (special) part they take up every organ or system of the human economy regionally, from the head down, giving detailed descriptions of the malignant conditions that manifest themselves in them. Therapeutic hints, too, are not wanting. There can be no doubt that the American profession needs just such an inexpensive but authoritative instruction in the early diagnosis of cancer and sarcoma. G. M. B.

MEDICAL · NEWS



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Dr. Abel Receives Medal

At the ninety-first annual meeting of the American Association for the Advancement of Science, held in December, 1932, its president, **Dr. John Jacob Abel,** of Johns Hopkins Medical School, received the first award of the Philip A. Conné Medal, which will be given annually, hereafter, to the person who makes a chemical discovery which is considered, by a jury of the Chemists' Club of New York, to be of the greatest value in medicine.

Dr. Abel's eligibility to receive the medal rests upon his chemical studies of the secretions of the adrenals and pituitary and of insulin.

Nobel Prize Winners, 1932

The Nobel Prize in Medicine for 1932 has been awarded to two British investigators, Sir Charles S. Sherrington and Dr. Edgar D. Adrian, for studies in the physiology of the nervous system which, in Sherrington's case, have extended over many years. The studies so rewarded have laid the foundation for practically the whole of our present knowledge of nervous physiology, especially of motor mechanisms and reflexes, and have immeasurably increased the possibilities of accuracy in neurologic diagnosis.

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"Anti-Flu" Masks

Our British friends seem to be more timorous or more careful than we are—or perhaps less susceptible to personal inconvenience—for, with the advent of cold weather, with its possibilities of respiratory infections, people appeared in London wearing these "anti-flu" masks, which contain a pad soaked with an antiseptic or disinfectant solution.

Congress on Internal Medicine

A Congress on Internal Medicine will be held at Upsala, Sweden, June 6 to 8, inclusive.

Full information may be obtained from the Travel Information Bureau of the Swedish State Railways, 551 Fifth Ave., New York, N. Y.

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Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment, or medicinal supplies. Make use of this department.

When requesting literature, please specify whether you are a doctor of medicine, dentistry, medical student, or registered pharmacist, or a nurse.

G- 47 Campho-Phenique in Major and Minor Surgery. Campho-Phenique Company.

G-392 Arthritis. Its Classification and Treatment. Battle & Co.

G-504 Bedtime Nourishment. Mellin's Food Co.

G-571 Detoxification in the Treatment of Intestinal Infections. The Wm. S. Merrell Company.

G-596 The Pneumonic Lung. Its Physical Signs and Pathology. The Denver Chemical Mfg. Co.

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G-613 Specific Urethritis — Gonosan "Riedel." Riedel & Co., Inc.

G-635 Niazo, Schering, a Modern Genito-Urinary Antiseptic for Oral Use. Schering Corporation.

G-636 Science's latest contribution to female sex hormone therapy—Progynon. Schering Corporation.

G-642 Ergoapiol (Smith) and Glykeron Martin H. Smith Co.

G-647 The Modern Status of Diabetes. Battle & Co. Chemists' Corporation.

G-699 The Illinois Post-Graduate Medical School Bulletin. The Illinois Post-Graduate Medical School, Inc.

G-672 Inflammation and Congestion. Numotizine, Inc.

G-679 The Gastric Temperament — Cal-Bis-Ma. William R. Warner & Co., Inc.

G-718 For more than 25 years the Dental and Medical Profession have recommended Revelation Tooth Powder. August E. Drucker Company.

G-719 Tetanus-Perfringens (Tetanus Gas-Gangrene) Antitoxin. The National Drug Company.

G-720 National Hay Fever Antigens. The National Drug Company.

G-724 An Unusually Palatable Form of Alkaline Medication. The BiSoDol Company.

G-725 The Hormone — March, 1933 The Harrower Laboratory, Inc.

G-726 The Acid-Base Balance of the Body; Its Relation to Health and Disease. The BiSoDol Company.

G-729 Endo Products Price List. Intravenous Products Company of America, Inc.

G-736 The Male Climacteric and Related Conditions. The Harrower Laboratory, Inc.

G-737 Descriptive Booklet. Od Peacock Sultan Co.

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G-757 Endocrinological Features of Impotentia Sexualis. Remogland Chemical Company.

G-758 Actual Experiences with Endocrine Toxemias. The Harrower Laboratory, Inc.

G-759 From "Poultesse" to "Cataplasm-Plus". Numotizine, Incorporated.